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ABSTRACT

For the past 12 or so years, policymakers, educators, and community members have been working to improve student achievement by reforming the public education system. However, progress has been slower than desired, and questions persist about which reforms return the most benefit for the money, time, and effort invested. This report summarizes findings of a review, conducted by the Education Commission of the States (ECS), of available research on education reforms. The report found evidence to support the effectiveness of certain initiatives; however, the findings about the outcomes of other initiatives were inconclusive or inconsistent, particularly for the new efforts. The reforms are divided into three categories. Category "A" initiatives have a long, reliable track record of providing return on one's investment; category "B" efforts have a shorter history with an uneven return; and category "C" initiatives are promising and/or popular newcomers whose success is unknown. Category A initiatives focus on providing a challenging coursework and curriculum, such as higher level mathematics, reading in the early grades, early childhood education, smaller schools, and tutoring. Category B initiatives include smaller classes, teacher professional development, teacher certification and licensing, interagency collaboration, children- and family-focused programs, full-day versus half-day kindergarten, school restructuring, and content and performance standards. Initiatives under Category C include performance-based pay for teachers, public school choice, school-based management, school-to-work programs, and the use of technology to improve teaching and learning. The report also offers recommendations to policymakers for choosing and evaluating reforms that improve student performance. (Contains 35 endnotes and 113 references.) (LMI)

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The ABCs of Investing in Student Performance

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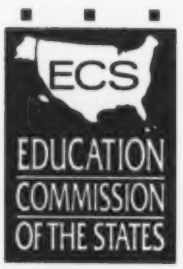

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EXECUTIVE SUMMARY

For the past dozen or so years, policymakers, educators and community members have been working to improve student achievement by reforming the public education system. But progress has been slower than desired, and questions persist about what returns the most benefit for the money, time and effort invested.

ECS reviewed much of the available research on reforms to see what evidence exists to help policymakers make better decisions. This report summarizes what we found. It does not claim to be all inclusive or a scientific assessment. Rather, it simply examines the initiatives that research and practice show make a difference for students as well as those we know little about.

The results were mixed: we found evidence that certain initiatives and practices improve student performance. But we also found a lack of evidence or inconsistent findings about other policies, programs and reforms, particularly the newer ones.

For instance, research shows that student performance is improved by such steps as making sure a child has a strong foundation before entering school, offering a challenging curriculum to all students, and changing the school environment to support teaching and learning.

But, for the more recent reform approaches, such as charter schools, there simply is not yet sufficient information to consistently link these efforts to improved student achievement. The good news, though, is that while there may be little research on these efforts per se, some of them do incorporate strategies known to work, such as improving the school environment.

This report divides initiatives into three categories along lines similar to a well-researched, diverse stock portfolio. Category "A" initiatives have a long, reliable track record of providing a return on one's investment. Category "B" efforts have a shorter history with an uneven return. And, Category "C" initiatives are the new arrivals — their success is unknown, but they are popular and promising.

Initiatives examined under Category "A" include challenging coursework and curriculum, such as higher-level mathematics; a focus on reading in the early grades; early-childhood education; smaller schools; and tutoring as an intervention.

Initiatives under Category "B" include smaller classes, teacher professional development, teacher certification and licensing, interagency collaboration, children and family-focused programs, full-day versus half-day kindergarten, restructuring schools, and content and performance standards for students.

Finally, initiatives under Category "C" include performance-based pay for teachers, public-school choice, school-based management, initiatives to connect learning and work, and using technology to improve teaching and learning.

Policymakers should not rush to grab onto Category "A" initiatives and forego the others. Like a sound stock portfolio, a comprehensive education reform plan needs selections from each Category, with the more solid "A" initiatives balanced with others that hold potential of being "A's" one day.

The bottom line is that policymakers need a more rigorous, thoughtful process for making decisions. This process includes:

- Study the available evidence.
- Examine new efforts that hold promise for improving student achievement.

- Put together a diverse package of initiatives combining the best of the "old" with the most promising of the "new."
- Remember none of these strategies will work alone; they should be part of a comprehensive reform plan.
- To be successful, any such plan should contain:
  - A reliance on objective, solid information to develop education policies
  - A comprehensive, long-term plan that focuses on improving teaching and learning
  - Provisions to define success and measure progress
  - Rigorous evaluations of whether initiatives are achieving their intended goals
  - A commitment to "stay the course" with education reform plans.

Policymakers must continue to ask for evidence and to push the research community to provide the types of information they need to make sound laws. Building these practices into the policymaking process will increase the chance that education reforms will lead to improved student performance.

ECS considers this collection of information to be a work in progress. We welcome the submission of other ideas, information or evidence about education reform approaches. Please send materials to ECS, c/o Mary Fulton, 707 17th St., Suite 2700, Denver, CO 80202-3427.

INTRODUCTION

The quest to improve student learning is marked by years of reforming, restructuring and reinventing the public education system. Nevertheless, persistent questions remain. What have we learned about the policies and programs aimed at improving student performance? What are the "best bets" for improving student learning? How can we invest time, energy and resources to benefit students? This publication is designed to inform state policy leaders by summarizing the initiatives that research and practice show make a difference for students and by examining the initiatives that we know little about.

A substantial body of research has produced compelling and consistent evidence that student performance is improved by the following:

- Laying a strong foundation before a child enters school
- Focusing on essential skills in the early grades
- Expecting all students to take a challenging curriculum and advanced courses
- Building teachers' knowledge and skills
- Creating a school environment conducive to successful teaching and learning.

Gazing over the bountiful fields of state education reforms and school improvement plans, one is struck, however, by what is scarce — solid evidence of how these efforts are improving student performance. The lack of evidence can be attributed partly to the fact that many of the reform efforts are in their infancy; there hasn't been enough time to measure their success. It also could be a result of what often is lacking in education reform agendas and decisions:

- A set of criteria that defines success and measures progress
- A reliance on objective, solid information to develop education policies
- A comprehensive, long-term plan that focuses on improving teaching and learning
- Regular and rigorous evaluations of whether initiatives are achieving their intended goals
- A commitment to "stay the course" with education reform plans.

Building these practices into the policymaking process increases the chance that education reforms will lead to improved student performance.

The ABC's of Improving Student Performance

In the absence of a definitive list of what works for students, this publication categorizes programs, policies and reforms based on what available evidence shows. The stock market offers the best analogy for the three categories presented in the document. The education practices in Category "A" are comparable to blue-chip stocks; they are fairly stable and have a long, reliable track record of providing a return on one's investment. Category "B" stocks have a shorter history with an uneven return. Finally, Category "C" stocks are the new arrivals to the financial market; their success is unknown, but they are popular and promising.

A financial analyst might give an investor the following advice: Without question, invest in "A" to increase the probability of a solid payoff for your investment. The "B" stocks are also good bets, but there is not much long-term information about them. And "C" investments are riskier but have potential.

Most important, however, the financial analyst would stress the wisdom of spreading one's investment over all three categories in varying amounts. The rationale is that investing in a single stock or stock group puts

one's investment at greater risk. Making diverse but wise investments is the recommended strategy.

These same category descriptions have been applied to the policies and programs reviewed in this publication. A sound comprehensive reform plan will include selections from all three categories, with most of the focus on Category A. While selections in Categories B and C do not yet yield as much evidence of success, they do have potential to be the "A's" of the future. Policymakers should look carefully at all the options and give thoughtful consideration to the best mix for students in their state or district.

How to Use This Information

As the reader progresses through this publication, here are a few reminders:

- Guarantees do not exist that any of these policies or programs will increase student performance; however, existing evidence more strongly supports Category A strategies.
- Like the stock portfolio, the selections should be well-balanced and complete by selecting programs and policies from each group, emphasizing the "blue-chip" choices over the riskier and newer choices in Category C.
- None of these strategies will work alone; rather, they must reinforce one another and should be integrated and sustained throughout a student's school years.
- Policies and programs should be combined in ways that promote the greatest achievement gains.
- Investments should support proven high-quality programs to make a real difference for students. In other words, if you're going to do it, do it right.

Increasingly, educators and the public are asking for a school system that is released from unnecessary rules and regulations and is instead governed by goals and standards for ongoing improvement. Policymakers, educators, parents and communities should work together to select, fund and put in place a school system that best serves their students. A key role for state leaders is to help schools and districts identify and accomplish effective ways to prepare students for employment and citizenship. This publication is designed to summarize for policymakers the information they need to move forward.

ECS would like to expand its collection of research and information on education reforms and how they are working. Please send any evidence, information or ideas you would like to contribute to: ECS, c/o Mary Fulton, 707 17th St., Suite 2700, Denver, CO 80202-3427.

CATEGORY "A" POLICIES AND PROGRAMS

Initiatives in Category "A" share all or most of the following characteristics: they are long-established in a number of locations, they have been formally and rigorously evaluated over time, and the evidence is consistent and positive that they contribute to increased student performance.

The following initiatives are examined in this section:

1. Challenging Courses and Curriculum
2. Reading in the Early Years
3. Early-Childhood Education
4. Smaller Schools
5. Intervention.

Initiative #1

CHALLENGING COURSES AND CURRICULUM

All students benefit from taking challenging courses in core subject areas. When students are not exposed to demanding courses, their opportunities to learn a subject in-depth, to pursue higher education and to succeed in a high-skill job market are diminished. To state the obvious, students don't learn what they don't study.

> ***"We have found out that the reason most students haven't been learning much was because we weren't teaching them very much."***
>
> — John Murphy, Former Superintendent, Charlotte-Mecklenburg Schools, North Carolina, "A Review of Public School Reform From the Trenches," *Opportunity*, 1996.

During the 1980s, most states increased the number of credits required for graduation in English, mathematics, science and social studies. As a result, more students are taking a greater number of core subject courses. Between 1982 and 1994, for example, there was a 62% increase in high school graduates studying three years of mathematics.[1] Only one out of four students, however, goes past algebra I in high school,[2] and average scores on college entrance tests have not increased significantly. In some instances, the 1980s crusade to ratchet up requirements amounted to changing course titles, while leaving a weak curriculum in place.

Policies to raise graduation standards have addressed only part of the problem — that is, for students to take more core subjects. But many "core" courses are just not demanding enough and do not teach higher-level skills and content. According to the Southern Regional Education Board, "*not* requiring challenging courses results in mediocre test scores, high percentages of students entering college remedial courses, and high school graduates who are unprepared for the workforce." On the flip side, evidence shows the following:

- Students know more about the subjects they study.
- Students who take more challenging courses know more about that subject.
- Students who complete a college-preparatory curriculum score higher on college admissions and college placement tests.
- Students who complete a more challenging vocational curriculum perform better and score higher on national assessments than those who complete a more traditional vocational program.
- Students who complete a core academic program earn better grades in college courses than those who do not, and fewer of them need to take remedial courses.[3]

In 1994, the National Center on Education Statistics' (NCES) report, *Effective Schools in Mathematics*, concluded that taking high-level courses (such as algebra II and geometry, as opposed to lower-level courses such as consumer math) is a critical element in school effectiveness, regardless of the socioeconomic status of students. The study further concluded that students' participation in more advanced mathematics courses was the single most powerful predictor of higher mathematics achievement at grade 12. In addition, access to advanced coursework at earlier stages (e.g., algebra and calculus in grade 8) was found to be critical to student math achievement.[4]

A 1995 study by the Council of Chief State School Officers found that 8th-grade math achievement may be linked to how much teachers emphasize algebra and geometry in their classrooms. The study concluded:

- Students tended to score lower in states where larger percentages of teachers said they focused on basic math (i.e., numbers, operations, measurements).
- Students from states in which more teachers said they emphasized algebra and geometry concepts fared better on National Assessment of Educational Progress (NAEP) assessments.
- In most high-performing states, teachers also said they placed little emphasis on basic mathematics.
- Students taught by teachers certified in mathematics tended to be more proficient on the tests.
- Students scored higher in states where teachers reported having had two or more days of inservice training in math over the past year.

Studies conducted under the College Board's Equity 2000 project (see next page) show that minority students who mastered algebra and geometry in high school succeeded in college at almost the same rate as white students. Unfortunately, many minority students still are placed in low-level math classes.

Similar findings hold true for writing. The *NAEP 1992 Writing Report Card* found that, compared to poorer-performing schools, teachers in the top-performing third of schools reported a greater emphasis on more challenging and extensive writing content. Teachers reported more frequently assigning papers of three or more pages and assignments that required analysis and interpretation rather than report or summary writing.

The availability of high-level courses also should be coupled with effective teaching practices, such as teaching for meaning and understanding, using techniques such as problem solving and reasoning, and emphasizing reading comprehension and effective written communication. The Educational Research Service (ERS) reported: "Investigations have consistently shown that an emphasis on teaching for meaning and understanding has positive effects on student learning, including better initial learning, greater retention and increased likelihood that ideas will be used in new situations. These results have also been found in studies conducted in classrooms in high-poverty areas."[5]

In a study on children in poverty, ERS also concluded: "By comparison with conventional practices, instruction that emphasizes meaning and understanding is more effective at teaching advanced skills, is at least as effective at teaching basic skills, and engages children more extensively in academic learning." The study also found that "low-income students can learn 'the basics' in a broader, more meaningful context if they are taught advanced skills at the same time."

Characteristics of High-Quality Initiatives

Research suggests the following actions can increase the impact that more challenging courses, curricula and instruction methods have on student performance:

- Setting explicit, high standards and expectations for all students
- Eliminating or reducing low-level courses, and replacing them with courses that offer challenging content
- Providing high-quality professional development that helps educators effectively teach all students advanced skills
- Preparing students in elementary and middle school to take more advanced high school courses

- Securing support and commitment for these policies from district officials, school board members, parents and the community.

Examples of High-Quality Initiatives

Equity 2000

Sponsored by The College Board, Equity 2000 is designed to close the gap in the college-going success rates between minority and non-minority and advantaged and disadvantaged students. To achieve this goal, the program aims to increase minority and disadvantaged student participation in more demanding mathematics courses — the courses that often serve as "gatekeepers" for entrance into higher education.

Program components also include:

- Raising standards and providing a challenging curriculum in all subjects for all students
- Establishing ongoing professional development for teachers, counselors and principals to increase their knowledge and skills and to raise expectations for students
- Improving a school's involvement with students, parents and families
- Developing a "safety net" for students through enrichment programs that provide extra academic support
- Forming school-community partnerships that include links with colleges and universities
- Monitoring progress toward reform goals.

A recent program evaluation found dramatic increases in the number of students taking and passing higher-level math courses — the program's hallmark objective.

In six districts implementing the program, the percentage of 9th-grade students enrolled in algebra I or higher-level courses climbed dramatically. In Fort Worth, Texas, high-level course enrollments rose from 51% to 90%; in Milwaukee, Wisconsin, from 33% to 94%; and in Providence, Rhode Island, from 43% to 100%. Despite the increased enrollments, the percentage of students failing these courses rose by only a few percentage points.

The [Equity 2000] evaluation also found that teachers and guidance counselors were significantly and positively changing their beliefs about what all young people can achieve — an essential condition if all students are to achieve at higher levels.

The evaluation also found that teachers and guidance counselors were significantly and positively changing their beliefs about what all young people can achieve — an essential condition if all students are to achieve at higher levels.

Transition Math Courses

California and New York have created "transition courses" to serve as a bridge between basic and college preparatory math. The goal of these courses is to enable students to learn challenging and useful mathematics and to increase their chances of going to college.

Transition math courses have been around for 10 years in California (called "Math A") and between three and five years in New York ("Stretch" Regents and University of Chicago School Math Program). Program evaluations indicate:

- Students were taking more challenging and useful math courses.
- Students were learning more math skills and content.
- The material covered was more practical and relevant to real-life situations.
- Students had a better opinion of math and a higher sense of self-esteem.[6]

New York City — Increasing Graduation Requirements

As a result of the College Preparatory Initiative (CPI), a program designed to ratchet up graduation requirements, thousands more high school freshmen in New York City public schools took and passed

college-preparatory math and science courses in 1995. Minority students, typically underrepresented in higher-level courses, were part of the dramatic enrollment increases. In college-preparatory math courses, known as regents-level classes, enrollment increased from 14,000 to 50,500 students; and in regents-level science courses, enrollment grew from 20,500 to 48,100 students.

As enrollment rates increased, however, so did course failure rates. Despite this discouraging news, the superintendent insisted "the surest formula for failure is to ask little and expect little, because little is what we will get, and little is all that their education will mean to them."

In conjunction with raising course requirements, the district also eliminated low-level math and science courses. In the future, the district intends to offer summer school to 9th-grade students who do not pass the course exams.

The program is a partnership between the New York city schools and the City University of New York (CUNY). CUNY's chancellor stated that the 1996 freshman class is academically the best prepared group in the past 20 years and credited CPI. More specifically, 79% of the students passed the entrance exam, compared with 72% the prior year. And, the percent of freshman taking remedial courses decreased from 36% to 26%, saving money for both the university and the students.

Charlotte-Mecklenburg School District, North Carolina

In 1991, the new Charlotte-Mecklenburg superintendent faced dismal achievement scores for black students and a crippling desegregation plan. Three years later, black students' test scores had risen dramatically. The solution appeared fairly obvious to the superintendent: raise expectations for all students, teach high-level classes to all students, and do not use a student's problems *outside* of school as an excuse for inaction *inside* the school. The following is a summary of Charlotte-Mecklenburg's reforms and results:

What Changes Were Made?

- Developed performance standards that defined what every student should know and be able to do at every grade level in every subject
- Held all students (with the exception of severely handicapped) to these high standards
- Established a public accountability system through school-by-school report cards
- Created a schoolwide financial bonus program for schools that met their achievement goals (black students were expected to learn "at a faster rate" in order to close the gap with white students)
- Eliminated lower-level and "fluff" courses and replaced them with more demanding courses
- Allowed and encouraged schools to use staff and time in ways that increase direct instruction time for students who were farther behind
- Increased professional development for all teachers and made it school-based (much of which focused on teaching higher-level courses and thinking skills to all students)
- Involved the entire community in understanding and addressing the needs of black students.

What Were the Results?

- Scholastic Aptitude Test (SAT) Scores:
  - From 1991 to 1993, SAT scores for black students rose 32 points without a reduction in the number of black test-takers.
  - The gap between black and white scores decreased from 202 to 193, even though white students' scores increased during that time.

- Advanced Placement (AP) Courses and Performance:
  - Black student enrollments in AP courses increased from 84 in 1990-1991 to 376 in 1993-94, a 348% increase. (During the same period, white enrollments increased 198%.)
  - The number of black students taking AP exams increased from 28 to 86 between 1991 and 1993, a 207% increase.
  - The number of AP exams "passed" by black students increased from 14 to 42 in that time period, a 200% increase.
- Participation in Higher-Level Classes:
  - In 1992, 9% of courses taken by black high school students were higher level, compared with 25% in 1994, a 168% increase. (White enrollments increased 100%.)
  - In 1992, 38% of black 7th graders were enrolled in pre-algebra, compared with 56% in 1994, a 48% increase. (White enrollments increased 6%.)

Actions for Policymakers

Recognizing that too many students are not taking rigorous coursework that will help them meet high standards, state and education leaders are raising the bar for the types and number of "core" classes students are required to take. To complement these tougher course and curriculum requirements, state policymakers may want to consider the following actions:

- Develop high academic standards and recommend course content to ensure a challenging curriculum
- Develop more demanding assessments that more accurately measure what a student has learned
- Provide incentives to reduce or eliminate lower-level, general courses and replace them with transition courses and/or college-preparatory courses
- Provide professional development opportunities for teachers to identify and use effective practices appropriate to higher-level courses
- Provide incentives to increase the number of AP courses offered
- Work with higher education institutions to require more demanding courses for admission
- Conduct and use ongoing evaluations that identify:
  - Trends in student achievement in core subjects
  - Proportion of students taking challenging classes
  - Enrollment trends in higher-level courses for all students, especially minority and female students.

Comments to Policymakers

When it comes to curriculum and instruction, policymakers need not be prescriptive or insist on unnecessary mandates. Rather, they can provide guidelines, incentives, resources, information and assistance to create high-quality schools for each student and teacher.

Initiative #2

READING IN THE EARLY YEARS

The ability to read is essential for success in school, in work and in daily life. Roadblocks lie on every street and around every corner if one cannot read well. And in today's world of complex and ever-changing technology and communication, it is virtually impossible to succeed without high-level reading skills. As U.S. Secretary of Education Richard Riley said: "You can't cruise the Internet if you can't read."

The inability to read limits opportunities. According to the 1992 National Adult Literacy Survey:

- About 42% of people with the lowest level of literacy proficiency were living at or below the poverty level, compared with 5% of citizens with the highest levels of literacy.
- Two-thirds of prisoners did not have the literacy skills needed to function in society.

A wealth of research indicates a solid foundation for reading must be built in the first few years of a child's

schooling. Most students who cannot read at or near grade level by the end of 3rd grade have difficulties throughout school, and many never graduate. Moreover, students with poor reading skills usually perform poorly in other subjects, including writing, math, science and English.

As Bill Honig, former California schools superintendent, says, despite this evidence, "large numbers of students do not become readers early enough to develop the skills and experience to read age-appropriate materials throughout their elementary careers and are, in effect, excluded from instruction." And, too many students never make the transition from learning to read to reading to learn.

Results from the 1994 NAEP Reading Assessment are alarming, and the effects of what they show are devastating for students. In its 1994 assessment samples of students in grades 4, 8 and 12 in all 50 states, NAEP found:

- The average reading proficiency of 12th-grade students declined significantly from 1992 to 1994, and no age group showed significant increases in proficiency.
- Sixty percent of 4th graders, 70% of 8th graders, and 70% of 12th graders attained *only* the Basic level in reading.
- Twenty-five percent of 4th graders, 30% of 8th graders, and 34% of 12th graders attained the Proficient level in reading.
- Only 3% to 7% of students across the three grades reached the Advanced level.
- Significant differences persist among racial groups. The following numbers represent the percent of students attaining the Proficient level, averaged for each of the three grades: Asian, 38%; black, 9%; Hispanic, 14%; white, 35%.

. . . too many students never make the transition from learning to read to reading to learn.

- At each grade, students who read five or fewer pages each day for school and homework had the lowest average reading proficiencies. Since 1992, the percentage of 12th graders who reported reading five or fewer pages each day increased, and the percentage who reported reading 11 or more pages declined.

These sobering statistics do not bode well for efforts to have all students achieve high academic standards in reading and, as a consequence, in most other subjects. Many education reform efforts are in jeopardy because millions of American students read poorly; reform critics, therefore, argue the emphasis should be on the "basics." The NAEP results also indicate that too many students do not spend enough time reading, although "time-on-task" has been shown to improve learning.

Turning this situation around will not be easy, nor will it be cheap. Most students who fall behind in reading require intervention programs. And effective reading intervention programs are costly because they involve intensive teacher training and one-to-one tutoring. As one local school official stated, however, "any investment will be more than repaid in savings down the line as fewer children are held back a year or referred to costly special-education classes."

Characteristics of High-Quality Initiatives

Research shows the more effective reading intervention programs incorporate the following practices:

- Complement the regular classroom reading program
- Emphasize learning to read by reading
- Stress basic reading skills and reading comprehension skills
- Use certified teachers, rather than paraprofessionals
- Allow teachers to use flexible approaches that rely on knowledge of how children learn
- Avoid using remedial, drill-and-practice and worksheet instruction

- Encourage students and families to increase their amount of reading time.

Examples of High-Quality Initiatives

For many students, their school's reading program is sufficient to keep them at or above grade level. But the NAEP results clearly indicate that too many students fall behind in reading early on, never catch up, and would benefit from effective early intervention programs. Here are a few examples of programs shown to be effective:

On the Way to Success in Reading and Writing with Early Prevention of School Failure

This program is a prevention program designed to promote success in early reading and writing for at-risk children in kindergarten and 1st grade. The instructional program and curriculum supplement the regular classroom program. Evaluations indicate that at-risk students who participate in the program could not be distinguished from their typical or average 2nd-grade peers on standardized reading and writing tests.

Reading Recovery

Reading Recovery is a short-term, intensive, one-to-one tutoring program for 1st graders reading at low levels. The results have been impressive, and thousands of schools across the country have adopted the program. A 1990-91 study showed that 88% of children in the program were reading at grade level and no longer needed further intervention. Another study indicated Reading Recovery is also effective with students previously placed in classes for learning disabled children, but who were not showing improvement.[7]

The costs of Reading Recovery can be intimidating, and sometimes prohibitive, to many school districts. The relatively high costs are due to initial staff training and salary expenses associated with the one-to-one tutoring instruction. Since students typically stay in the program for only one semester, however, Reading Recovery actually can produce cost savings compared to the average five-year stay in the federal Title I program for disadvantaged students and six years in special-education classes.[8]

Actions for Policymakers

Policymakers may want to consider the following steps as they decide what will work best in improving the reading skills of children in their states or districts:

- Provide funding for teacher professional-development efforts in which teachers can identify and apply effective reading programs
- Set up a grant program for low-wealth, low-achieving districts and schools to supplement funding for effective, more expensive reading intervention programs
- Encourage districts and schools to use their federal Title I and special-education dollars for more successful reading approaches and intervention programs
- Create disincentives to incorrectly or unnecessarily label a child as "learning disabled" when a high-quality reading program or intervention effort would be more effective, cost less and avoid long-term special-education services
- Establish an information clearinghouse and accessible database to help districts and schools identify the most effective reading approaches and intervention programs
- Help districts and schools evaluate the effectiveness of their reading programs.

Comments to Policymakers

While mandates are not recommended, state leaders may want to provide resources and incentives to improve reading in the early grades. Further, they can initiate a statewide campaign to communicate the importance of reading and to encourage students and families to read as often as possible.

Initiative #3

EARLY-CHILDHOOD EDUCATION

All children benefit from quality early-childhood experiences through the home, preschool or center-based programs. Every young child needs intellectual and physical stimulation, adequate health care and nutrition, structured learning and play time, safe environments and caring adults.

Participating in early-childhood programs can determine children's academic success and life chances, dramatically increase their "readiness" to learn, and form a strong foundation as they embark on their education.

More than ever, state policymakers need to reevaluate their role in meeting the needs of young children from a policy, program and investment standpoint in light of the following factors:

- Evidence that quality early-childhood education can increase school success, especially for low-income students
- The number of low-income children who are underserved or not served at all and are missing an opportunity to catch up with their peers
- Changes to federal education, health and welfare policies that will reduce funding but provide state and local leaders with flexibility to redesign and integrate social programs for greater efficiency and effectiveness
- Federal welfare policies that now require welfare recipients to work or attend school, therefore increasing the demand for early-childhood, preschool and day-care programs

Studies suggest that high-quality early-childhood programs for young children living in poverty can provide considerable savings in special education, crime and welfare assistance, and higher tax revenues from projected increases in lifetime earnings.

- The dramatic increase in the need for full-day early-childhood and preschool programs due to the growing number of women with full-time jobs and single-parent families.

Because of these factors, investing in high-quality early-childhood and preschool programs is a wise policy decision and might be one of the best poverty-prevention initiatives available to state leaders. Poverty and low test scores often accompany one another, as witnessed throughout school districts across the country and documented by numerous studies. This relationship between income and test scores often stems from a lack of opportunity to start school "ready" to learn. Unfortunately, only 35% of low-income children attended preschool in 1990, compared to 60% of more advantaged children.

The disparity in preschool attendance is even more alarming when one considers the return on initial investment. Studies suggest that high-quality early-childhood programs for young children living in poverty can provide considerable savings in special education, crime and welfare assistance, and higher tax revenues from projected increases in lifetime earnings. One program, the High/Scope Perry Preschool project, provided taxpayers a return of $7 for every dollar invested.[9]

A variety of other long-term studies show that students (especially low-income children) who participate in high-quality early-childhood and preschool programs outperform students who do not attend such programs in the following ways:

- Higher rates of high-school graduation and enrollment in postsecondary institutions
- Lower rates of grade retention
- Fewer special-education placements
- Fewer numbers of dropouts, arrests, teenage pregnancies and welfare recipients
- Higher employment rates as teens and young adults.

Research also points to higher intellectual performance and language gains as well as the following benefits:

- Improving children's physical health by requiring they be properly immunized; linking them to health services; conducting vision, hearing and developmental screenings; and providing them with nutritious meals

- Helping parents strengthen their parenting skills through participating in their child's education and specially designed parenting programs.

Despite this evidence, a major criticism of early-childhood programs is that the academic progress "fades out" during the elementary years. Researchers and early-childhood experts offer a number of responses:

- The positive effects of early-childhood programs appear later through increasing the student's chances of graduating from high school and staying out of trouble with the law.

- Students who attend early-childhood programs often demonstrate a higher motivation and confidence toward learning because of the initial successes their strong start provides.

- Students in early-childhood programs have lower rates of retention in grade or placement in special education, factors more reliable than IQ scores.

- The fading of gains appears in elementary-school programs that do not "take hold of the baton" by providing similar intellectual stimulation to continue the progress made in early-childhood programs.

Characteristics of High-Quality Initiatives

Offering early-childhood and preschool programs to all children is important, but offering *high-quality* opportunities will make the difference in their lives. A review of the research indicates that early-childhood programs can have a substantial, long-lasting impact on young children if they:

- Hire well-qualified staff, trained in early-childhood development and provide ongoing, professional development

- Offer a developmentally appropriate curriculum that enhances academic and social skills

- Create small class sizes with low ratios of children to teachers

- Continue intervention support as children enter elementary school

- Involve parents as full partners in their child's development

- Receive adequate financial and physical resources, including staff salaries and benefits

- Adhere to standards for program quality (such as health services, nutrition, social services, parental involvement, staff qualifications and developmentally appropriate practices)

- Coordinate efforts with other social-service agencies or providers to meet children's multiple needs

- Evaluate the program's quality and effect on children, and make necessary adjustments to improve its success.

Examples of High-Quality Initiatives

Federal Head Start

- Provides an array of child services, such as enhancement of child's intellectual and academic skills, improvement of child's physical health and emotional development, involvement of family in child's development and improvement of family's relationships.

- Children completing one year of a high-quality Head Start program have demonstrated significantly higher scores in reading and math than children of similar backgrounds who do not participate. (These gains, however often fade if children do not receive effective elementary-school programs.)

High/Scope Perry Preschool

- Focuses on cognitive development through long-term learning goals.

- Students initiate and carry out their own learning activities, parents are involved as full partners with teachers in supporting their children's development, and teachers are provided curriculum training and supportive curriculum supervision.

- Preschool programs using the High/Scope preschool curriculum have shown they improve children's school success, later socioeconomic success and social responsibility, as well as lower rates of delinquency.

- A longitudinal study tracked program participants through age 27 and found that these students, in comparison with students who did not attend similar programs, had higher rates of high school graduation and employment, lower rates of special-education placement, higher test scores, less dependency on welfare and fewer arrests.

DISTAR (Direct Instructional Systems for Teaching Arithmetic and Reading)

- Students are taught in small academically homogenous groups and must master specific tasks before they move on to higher-level materials.

- Despite criticisms that this approach focuses too much on rote-learning skills rather than abstract skills and does not sufficiently address students' social development, DISTAR has been shown to improve students' basic math and reading skills.

State Early-Childhood Programs

More than half of the states fund early-childhood programs. Here are just a few examples:

- **Georgia.** In an effort led by the governor, the state established pre-kindergarten education in 1991 for low-income children, funded by lottery revenues. Last year, the program was expanded to all children and families. The Georgia Department of Education's Early Childhood division developed a program framework and encouraged public schools, other public agencies and private child-care providers to apply for available grants. Staff also worked with experts from High/Scope (see page 11) to provide extensive training for delivering high-quality pre-kindergarten programs.

  Three years ago the state contracted with Georgia State University to conduct a longitudinal study of the pre-kindergarten program, but results are not yet available. Nonetheless, the program has spurred tremendous statewide support for early-childhood education. In 1995-96, 40,000 children participated in the pre-kindergarten program. The 1997-98 enrollments are projected at 60,000 children.

- **Kentucky.** The state-funded preschool program was enacted as part of the 1990 Kentucky Education Reform Act. The program is limited to low-income children and those with any developmental delays, regardless of income. Although the initiative is state-directed, program providers are encouraged to work with federal Head Start programs to reach more children and combine funding. State funding for the preschool program has increased dramatically, from $14.5 million in 1990-91 to $37 million in 1993-94. To ensure statewide quality, all programs must meet minimum standards, whether the child is served by a school, a district or another agency, such as Head Start.

  Initial evaluations indicate achievement scores for preschool children are equal to or higher than their peers when they enter kindergarten and 1st grade. Specifically, children who participated in preschool programs showed stronger communication and social skills and more familiarity with books.[10]

- **Washington.** The Early Childhood Education and Assistance Program (ECEAP) is a comprehensive preschool effort for low-income 4-year-olds. The program was initiated by business leaders who were impressed by studies that demonstrated the long-term social and economic benefits of high-quality early-childhood programs for at-risk preschoolers. ECEAP emphasizes quality and results by adhering to standards issued by the National Association for the Education of Young Children and by statutory requirements for rigorous program evaluation.

  Recent evaluations reveal that participating children's language skills, conceptual abilities, motor skills and vocabulary have improved dramatically. Additionally, as ECEAP children entered kindergarten, they scored significantly higher in these areas than their peers who had not attended a comprehensive preschool program and who came from significantly more advantaged homes. State funding has increased from $3 million in 1986-87 to $23 million in 1994-95, allowing far more children to receive services.[11]

- **Vermont.** In the late 1980s, the Vermont legislature enacted its Early Education Initiative and established a competitive grant system to which licensed day care centers, Head Start programs and other community agencies can apply to run early-childhood programs. All grantees must collaborate with other local public and private agencies that serve children. Proposed programs must include quality standards related to curriculum, health and safety, parental involvement, staff/child ratios and group sizes. In addition, grantees must agree to make annual evaluations and track program participants through 6th grade. Recent evaluations revealed that more than half of children who participated in the programs showed positive development gains in cognitive, motor and physical, language and social, emotional and adaptive areas.[12]

Actions for Policymakers

Policymakers wanting to increase the availability, quality and effectiveness of early-childhood programs may want to consider the following steps:

- Provide new or reallocate existing dollars to initiate or expand early-childhood education programs throughout the state. Programs for low-income children should take top priority.
- Undertake a comprehensive review of early-childhood programs and policies to:
  - Identify effective, ineffective and overlapping programs
  - Identify children's needs not met by existing programs
  - Target resources to effective, high-impact programs
  - Develop realistic plans for providing, funding and integrating programs.
- Supplement funding for federal Head Start programs.
- Provide fiscal incentives to encourage districts and schools to offer high-quality early-childhood and preschool programs (e.g., a competitive or noncompetitive grant program).
- Develop an incentive system to ensure quality standards and effective use of resources. Quality assurance is complicated by myriad program providers, many of whom are private sector and not subject to certain governmental regulations. They often are regulated, however, through competition and market forces.
- Offer incentives to businesses for operating early-childhood programs for working parents.
- Develop an office of early childhood in the state departments of education or human services with responsibilities for:
  - Gathering information about quality, effectiveness, cost and best application for programs, and making this information accessible to districts, schools, educators, health and human service providers and parents
  - Providing technical assistance to localities as they implement and evaluate programs
  - Connecting program providers with one another to share information, best practices and efficient funding strategies
  - Coordinating services across agencies, organizations and providers.

Comments to Policymakers

State leaders should remember that participating in high-impact early-childhood programs and services does not guarantee that a child will succeed in school or life, nor is program participation sufficient for overcoming all the disadvantages that might hinder student achievement. The demonstrated benefits and increased opportunities arising from early-childhood intervention programs should be tempered with realistic expectations.

Initiative #4

SMALLER SCHOOLS

During the 1960s, an influential study by James Bryant Conant prompted a national effort to create large, "comprehensive" high schools of 750 to 2,000 students that could offer a more expansive and specialized

curriculum. Despite subsequent studies that questioned the effects of large schools on student achievement, the next 30 years brought a substantial increase in the average K-12 school size and a reduction in the number of schools.

Additionally, large schools were considered more efficient than smaller schools. Many educators and economists believed large schools could provide the same programs and services at a lower cost. Results from recent studies, however, contradict the large-school efficiency argument.

A 1992 Public Education Association study reported that large schools (i.e., 1,500-4,000 students) do not achieve cost-efficiencies significant enough to justify their existence or to offset negative educational effects. Large schools require more administrative and support positions to manage their operations and more teachers for specialized departments and courses. Higher rates of violence and vandalism also add to large-school costs (e.g., metal detectors, security, custodial, repairs, etc.).

Since the case for large-school efficiency has weakened, educators also question whether large schools are good for students. For many, the answer is an emphatic "no." Consequently, the long-standing benefits of small schools are catching the attention of state policymakers, educators and researchers.

Deborah Meier, former principal of Central Park East High School in Harlem and respected education reform expert, is an ardent supporter of small schools (coupled with public school choice). She offers these reasons why small schools are essential:

- In small schools, teachers can get to know students and their work, how they think and how best to teach them. Students also have easier access to more adults for academic advice and as mentors.

Convincing evidence is mounting that small schools, those with 300 to 900 students, might be the answer to many of education's ills.

- Small schools provide the possibility of schoolwide accountability. Parents and the public have easier and more direct access to teachers and principals; teachers and principals can get to know the parents; the staff knows which students are doing their homework and which are not; faculty can work as teams and access one another's work; and principals can more easily get to know their staff and their teaching styles, strengths and weaknesses.

One concern with small schools is that they cannot offer the course variety and extracurricular activities offered by larger schools. Research indicates, however, that large schools do not guarantee a comprehensive curriculum and that advanced and alternative courses attract only a small number of students.[13] Moreover, the breadth and depth of small schools' course offerings compare favorably with larger schools, and technology (distance learning and the Internet) has expanded learning opportunities in small schools. To provide more extracurricular activities, small schools have joined forces with other schools or schools-within-schools, and have made more extensive use of businesses, community organizations and cultural facilities.

Convincing evidence is mounting that small schools, those with 300 to 900 students, might be the answer to many of education's ills. Research, which dates back for 30 years, found smaller schools:

- Improve students' test scores and grades (especially for low-income and minority students).
- Increase student attendance rates and reduce dropout rates. Research shows dropout rates in schools with more than 2,000 students are twice as high as those of schools with 600 or fewer students.
- Improve student attitudes toward and interest in school.
- Foster better relationships between students and teachers.
  - Encourage students to participate in extracurricular activities and provide students with more leadership opportunities.

- Allow teachers to play a more active role in school decisions.
- Reduce incidences of violence and vandalism.
- Make education reforms and improvements easier to accomplish.
- Provide stronger ties to the community and create a stronger sense of community within the school.

So what are the ideal sizes for schools? To achieve both instructional benefits and cost-efficiencies, research recommends the following school-size ranges:

High Schools	600-900[14]
	500-800[15]
	1,300-1,700[16]
Middle Schools	400-600[17]
	600-800[18]
Elementary Schools	300-400[19]
	300-600[20]

These numbers are targets and can be undesirable or difficult to achieve in some circumstances, such as isolated rural schools. In large urban schools, however, creating schools-within-schools may offer a broader range of teaching, learning and subject-matter focus to students and parents.

Characteristics of High-Quality Initiatives

For small schools and schools-within-schools to be successful and effective, educators and researchers recommend the following:

- Embrace a strong academic structure, rigorous academic standards and high expectations for all students
- Create schools-within-schools that are independent schools, not subdivisions or just one specialized school within a larger school
- Broaden the range of courses and activities by collaborating with schools within and outside of their building and with other community resources (i.e., museums, recreation centers, etc.)
- Provide equal opportunity for all students to participate in different schools
- Provide helpful information and guidance to all students and parents about their school options.

Examples of High-Quality Initiatives

East Harlem, New York — District Four

New York City School District Four is located in East Harlem, one of the poorest areas in the city. In 1974, the superintendent and associate superintendent got serious about turning around the district's dismal performance rates. They decided to convert existing buildings into schools-within- schools to create a more personal, less threatening environment in which students could receive more individual attention.

Each school developed its own theme, had its own administrator, served a smaller group of students and teachers, and operated as independently as possible. This arrangement provided choices for students and parents to meet individual educational needs and interests. By 1988, the percent of students reading at or above grade level had climbed nearly 50 points to 62.5%, and daily attendance rates increased to more than 90%.

Central Park East (CPE) is a network of schools within District Four which has received national recognition for excellence. CPE began as a small K-2 school, then added Central Park East II, then River East and finally Central Park East Secondary school, which now spans grades 7-12. The success of CPE schools rests on a few principles:

- Make the school small
- Provide rigorous coursework and classes
- Expect all students to achieve high academic standards
- Actively engage students in their learning
- Allow all decisions to be made at the school level
- Connect the school with the larger community.

Results have been impressive with graduation and college attendance rates well above the city average, a long waiting list to attend CPE schools, and a dramatic increase in community support and parental involvement.

Actions for Policymakers

State leaders can support the development of smaller schools in the following ways:

- Establish a grant fund to help large schools divide into schools-within-schools
- Provide waivers to give small schools significant decisionmaking authority over staffing, curriculum, scheduling and budgeting, allowing them to be more effective and take advantage of their smallness
- Provide information to schools about the "lessons learned" in creating and maintaining small schools, especially schools-within-schools
- Establish a network for small schools and schools-within-schools so they can collaborate to provide a broader array of courses and services
- Provide information to students and parents about their school options
- Provide technical assistance to help establish schools within schools.

Comments to Policymakers

Policymakers should remember that the point of small schools is not just to save money. Rather, small schools should be valued because of what they do better for students and teachers. As Thomas J. Sergiovanni wrote in *Leadership for the Schoolhouse*, "even if small schools were to cost a little more than larger schools, they still would be more efficient if the added costs made them more productive than larger schools. Thus, in the long run, they would wind up saving taxpayers money."[21]

And finally, state leaders should recognize that "both large and small schools are being challenged to rethink course delivery, the training and use of instructional staff, scheduling, curriculum and instruction, school organization, and even mission. Understanding how to influence size, alter it when necessary and to collaborate to create the situations that are most advantageous to large and small schools is the biggest challenge for educators and policymakers."[22]

. . . effective one-to-one tutoring can reduce inappropriate placements in special-education classes geared to students with mild learning disabilities.

Initiative #5

SCHOOL-AGE INTERVENTION

Many students start school without the necessary skills to keep pace with expectations in reading, math and other subjects. Students who struggle in the elementary years often become discouraged and fall further behind, are more likely to be placed in special-education classes, display more behavioral problems and often drop out of high school.

Many of these results can be avoided or minimized by school-age interventions targeted at a student's particular needs. For example, effective one-to-one tutoring can reduce inappropriate placements in special-education classes geared to students with mild learning disabilities. Mislabeling or unnecessarily labeling students as learning disabled carries fiscal, achievement and social costs to the student, school system and society.

Also, many tutoring programs are aimed at or indirectly result in improving a student's attitude toward school by connecting him or her with adult role models who are interested in the student's success. When a student's attitude about school is positive, he or she tends to achieve at higher levels and get involved in school activities.

Although evidence suggests that one-to-one tutoring can be costly, it is a cost-effective investment. A 1987 study found cross-age tutoring to be far more cost-effective than lengthening the school year, reducing class size or investing in computer-assisted

instruction. For example, Henry Levin, head of the Accelerated Schools effort, writes that to obtain an additional month of mathematics achievement, it would cost about $200 a year per student with a longer school day, but only about $22 a year with peer tutoring. Robert Slavin, founder of Success for All, concluded "perhaps the most direct and certain translation of dollars into achievement gains is the provision of one-on-one tutoring for students having serious difficulties in school."

Because it gears instruction to needs, tutoring has shown significant achievement gains, particularly in math and reading, in several dozen studies. "One-to-one tutoring is an extremely useful tool in improving learning and in enhancing the chances of students remaining in school. In addition, such instruction is an effective means of preventing student reading failure. As such, preventative tutoring deserves an important place in discussions of education reform," according to a study published by the National Commission for Employment Policy.[23] Other studies found that programs have definite and positive effects on the academic performance with tutored students often outperforming their peers on standardized tests.[24]

Characteristics of High-Quality Initiatives

Effective intervention and tutoring efforts share some common practices. They are:

- Integrated into the school day, allowing more students to take advantage of the services
- Included as a standard part of the school culture and reform plan, not as an add-on or reactive measure to address students' needs
- Extensive, sustained, targeted to student needs and based on a student achievement plan
- Staffed by well-trained and qualified professionals or paraprofessionals. (Peer tutoring also can be effective when older students work with younger students who are struggling with school work.)

Examples of High-Quality Initiatives

Helping One Student To Succeed (HOSTS)

HOSTS is designed to increase students' reading and language arts skills through an individualized lesson plan and involvement with dedicated, well-trained role models. Students receive extra attention, motivation, support and encouragement to become better students. A federal, multi-state study found HOSTS produces consistent improvement in education attainment in grades 1-9.[25]

Success for All

This program for disadvantaged elementary students is designed to ensure that every child attains basic skills, particularly reading. One major component of Success for All is one-to-one tutoring by certified teachers for 1st to 3rd graders who have difficulty learning to read. The tutoring program emphasizes "learning to read by reading" as well as the use of phonics and interesting classroom stories. Success for All also incorporates:

- Research-based prekindergarten and kindergarten activities
- Extensive use of cooperative learning in grades 1-5 for reading, writing and language arts
- Active family support and parental involvement.

Research on Success for All shows it has positive effects on student reading performance and on reducing grade retention and special-education placements. The combination of tutoring, curricular changes and family-support services appears to have a strong impact on achievement, especially for the lowest-achieving quarter of children.

Actions for Policymakers

State leaders can support effective tutoring programs through actions such as the following:

- Capitalize on U.S. Department of Education grants designated for intervention and tutoring programs
- Provide a competitive grant program for high-quality intervention and tutoring initiatives

- Help schools provide tutoring programs by granting them authority over scheduling and other decisions that would strengthen their school-improvement plans
- Encourage schools, districts and higher education institutions to collaborate and enlist college students as tutors for K-12 students
- Provide schools and districts with information about effective intervention and tutoring programs, and with technical assistance to establish, fund and evaluate programs.
- Encourage the use of effective intervention efforts by holding districts and schools responsible for all students achieving high academic standards.

Comments to Policymakers

While program mandates are probably inappropriate, state leaders should recognize that many students need extra help to succeed in school. Policymakers can reinforce the importance of effective intervention efforts by promoting high expectations for all students and providing targeted resources to supplement district programs.

CATEGORY "B" POLICIES AND PROGRAMS

Initiatives in Category "B" share *all* or *most* of the following characteristics: they are relatively new and/or not widely used, they have been inadequately evaluated, and the evidence is inconsistent or contradictory that they contribute to increased student performance.

The following initiatives will be examined in this section:

1. Smaller Classes
2. Teacher Professional Development
3. Teacher Certification and Licensing
4. Integrating Education with Health and Social Services
5. Children and Family-Focused Programs
6. Kindergarten: Full Day Versus Half Day
7. Restructured Schools
8. Content and Performance Standards for Students.

Initiative #1
SMALLER CLASSES

The debate over the effectiveness and efficiency of reducing class size remains unresolved. Nonetheless, several state legislatures are appropriating large sums of money to reduce K-3 class sizes to between 15 and 20 students.

Researchers keep the discussion alive as they argue the merits and methodologies of various class-size studies. For state policymakers, reducing class size is a visible, concrete initiative that can be replicated throughout schools. Meanwhile, teachers and parents proclaim what they believe is obvious — fewer students in a class make it easier to teach and to learn. In the end, state leaders must weigh the "political points" they earn from teachers and parents against the high cost of reducing class size and the education reforms left unfunded because of this policy.

The class-size reduction discussion intensified in 1990 when the Tennessee legislature funded a longitudinal study on smaller classes and student achievement, and then commissioned a follow-up study to determine the lasting benefits. The first study, known as Project STAR (Student:Teacher Achievement Ratio) studied 7,000 students in 79 elementary schools. Researchers concluded small class sizes (13-17 students) significantly increased student achievement scores, compared to regular classes of 22 to 25 and regular classes with a full-time teacher's aide. They also found that gains made in kindergarten were maintained through 3rd grade, and the greatest gains were made in inner-city small classes.

Another study, the Lasting Benefits Study tracked students from grades 4-7 as they returned to normal size classes and concluded these students:

- Were less frequently retained in grade
- Succeeded in narrowing the achievement gap between children living in poverty and more affluent students, and between white and African-American students
- Had higher achievement "across the board" (in science, social studies, math, reading, spelling and study skills)
- Continued to outscore peers from larger classes, although differences diminished somewhat as years went on.

While the results from these two studies appear convincing, critics point that 1,100 small class-size studies produced mixed findings. They also question whether Project STAR and the Lasting Benefits Study

should be viewed as the definitive studies on which to develop and invest in class-size reduction policies.

Overall, the evidence is inconclusive as to whether small classes improve student achievement. The research has produced mixed and contradictory results, including:

- Students in early grades learn more and continue to have an edge over the rest of their peers when they return to normal classrooms. The impact is greatest and longer lasting if they remain in small classes, however.
- The payoff in terms of student achievement gains does not translate into a cost-effective investment. Tutoring and direct instruction appear to be more cost effective.
- Kindergarten through 3rd-grade students benefit most, as do minority students in urban schools.
- Class-size reduction cannot be isolated as the sole factor for increased student achievement.
- Reading and math scores improve for some students in comparison to peers in regular-size classes.
- Smaller classes force districts to hire significantly more teachers and create more classroom space.
- Effectiveness depends on whether teachers adapt their teaching methods to take advantage of small classes and have more focused time with students.
- Small classes result in fewer classroom distractions and more time for teachers to devote to each student.

Characteristics of High-Quality Initiatives

Reducing class size has been found to be most effective when:

- Classes are reduced to between 15 and 19 students. (Little impact has been demonstrated in class sizes of 20 to 40 students.)
- Particular schools are targeted, especially those with low-achieving and low-income students.
- Teachers are provided ongoing, high-quality professional development to make the most of the smaller class-size conditions.
- Teachers are well-qualified and a challenging curriculum is used for every student.

State Examples of Class-Size Reduction

California

In 1996, the California legislature enacted a $771 million voluntary program to reduce K-3 class sizes. Schools will receive a $650 per-student bonus for each class reduced to 20 students. But, because the state estimates it will take $775 million to reach this goal, schools must add $125 for each child in the smaller classes.

The measure provides an additional $200 million for 8,000 new classrooms, either through remodeling or use of portable buildings. The appropriation for new facilities is a one-time provision, while class-size reduction funds are expected to be included annually in the state budget. Approximately 20,000 new teachers are needed to accommodate smaller class sizes, which prompted the governor to sign a bill relaxing teacher certification requirements. Doing so, however, raised concerns about districts hiring unqualified teachers as they race to meet the February 1997 deadline. Another unintended consequence of the policy has been a surge of teachers moving to more desirable districts that need to fill newly created staff positions.

Indiana

The Prime Time program was adopted in 1981 as a pilot project to reduce class size in grades K-3, but became a statewide initiative three years later. As of the 1988-89 school year, classes were reduced to 18 students in kindergarten and 1st grade, and 20 students in 2nd and 3rd grades. In 1995, Indiana lawmakers appropriated $77 million for the Prime Time program.

Teachers have reported improved student behavior, higher test scores and more efficient classrooms. Program evaluations, however, indicate a weak relationship between lower class size and student achievement, but significant improvement in teachers' morale and attitudes.

Nevada

In 1990, the Nevada legislature appropriated $6 million to limit classroom size in K-3 grades to 15 students per class in core subjects. As part of the program, the legislature appropriated $450,000 for professional development to help teachers take advantage of smaller classes.

A questionnaire revealed that principals, teachers and parents believe smaller class sizes are associated with new teaching practices, increased teacher- student interaction, positive student attitudes toward learning and improved grades. Districts reported fewer special-education referrals and less teacher absenteeism were associated with class-size reductions. More in-depth evaluations show student achievement levels remained the same when small classes were compared with larger classes (tested over a three-year period). In some districts, however, students in smaller classes (1-20) did significantly better in reading and moderately better in math than students in classes of 21 and over.

Actions for Policymakers

If state policymakers decide to invest in class-size reduction, they may want to consider the following actions:

- Estimate the cost of funding the proposed class-size reduction plan, then:
  - Determine the state's commitment and any district contribution that will be necessary
  - Indicate whether state funding is permanent, temporary or contingent upon available revenue
  - Address the need for additional, qualified teachers and classroom space
  - Provide sufficient funds for the grades and schools covered under the initiative.
- Target the program and dollars to low-income, low-achieving schools to allow significant class-size reduction in a few schools, rather than modest reductions statewide.
- Provide professional development funds so teachers can adapt teaching methods for the smaller classes.
- Evaluate the small class-size initiative on a regular basis to determine its benefits and cost-effectiveness.
- Assist schools and districts to combine class-size reduction with other school-improvement plans for maximum impact.

Comments to Policymakers

As more state leaders adopt or consider legislation to reduce class size, the discussion should focus on the costs of creating smaller classes and whether the costs are justified by the returns. Moreover, if class size is believed to make a difference, then policymakers need better information about why small classes are beneficial to student achievement and how this information can be used for other reform efforts. Finally, state leaders should be prepared to deal with the unintended consequences if class size is reduced on a statewide scale, for example, the need for additional, qualified teachers and classroom space, and the issue of teachers choosing more desirable districts.

Initiative #2

TEACHER PROFESSIONAL DEVELOPMENT

By all accounts, existing teacher professional-development activities are sorely inadequate, irrelevant, poorly designed and viewed as a low priority. Yet, teachers are expected to deepen their subject knowledge, broaden their array of teaching practices to meet students' diverse needs, adapt to the latest technology and keep pace with numerous reform initiatives.

The issue is not a lack of professional-development activities, for they are abundant. Rather, the charge facing policymakers and educators is to expand effective opportunities and eliminate useless ones, so that professional development actually leads to improved teaching and learning. After all, as Ann Bradley noted in *Education Week*, "schools are only as

good as their teachers, regardless of how high their standards, how up-to-date their technology or how innovative their programs. If teachers aren't given adequate opportunities to learn, they have little chance of meeting the ever-increasing demands placed upon them."[26]

Only limited evidence exists to connect teacher professional development directly to increased student performance. Educators and researchers contend, however, that it is unreasonable to expect the current, ineffective professional development to lead to better teaching, let alone better student achievement.

But as state, district and school officials adopt more relevant professional development, they also must evaluate their effectiveness in terms of student performance gains. For now, the argument to provide and invest in more professional development must rely on the assumption that significant changes to the "way of doing business" requires advancing the knowledge and skills of the workforce. Beyond common sense reasons, the teachers who have experienced *valuable* professional development assert it is essential for learning more effective teaching practices, increasing their knowledge base and improving student performance.

Characteristics of High-Quality Initiatives

Based on recent study results and recommendations, high-impact teacher professional development:

- Focuses on improving student performance and helping students meet high academic standards
- Directly supports school and district improvement plans and helps teachers translate broad education reforms and theories into effective classroom practice

> ***"Schools are only as good as their teachers, regardless of how high their standards, how up-to-date their technology or how innovative their programs."***

- Is grounded in knowledge about good teaching and all that teaching encompasses, i.e., subject-matter expertise, knowledge of how children learn and develop, a range of teaching practices, student assessment and parental involvement
- Is embedded in and relevant to teachers' daily work, rather than a one-shot or periodic event
- Is designed and directed primarily by teachers
- Provides sufficient time and follow-up support for teachers to master new content and integrate effective practices into their classrooms
- Is sustained and emphasizes teachers' overall development
- Encourages discussions about and inquiry into effective teaching.

Examples of High-Quality Initiatives

The following are relatively new approaches to professional development that show promise and adhere to the qualities described above (Note: examples are from Bradley and the National Commission on Teaching and America's Future.):

Joint Work and Job Enrichment

Teachers' skills and knowledge are enhanced through participating in task forces or study groups that develop student and teacher standards, score new student assessments, revise curricula, etc. Additional activities include team teaching, mentoring new teachers and serving on school-site management teams. Examples include:

- The School Quality Review piloted in New York and California, Vermont's student portfolio assessment project and the National Council of Teachers of Mathematics' standards board
- Competitive grant programs that allow teachers and principals to study and undertake significant improvements to school practices and performance, including Ohio's Venture Capital Fund, Maine's Innovative Educational Grant and Iowa's School Improvement Program.

Teacher Networks

Specific subject-matter networks connect teachers within a state or across the country to deepen their understanding of content, learn about new teaching methods, discuss ideas and solutions, and offer support. Teacher networks create a "professional community," which is often missing in the isolated working conditions of classroom teachers. Some examples of networks are:

- National Writing Project — aims to improve the teaching of writing and the quality of student writing
- Urban Math Collaborative — brings together math teachers from urban schools, higher education faculty and business professionals to strengthen math instruction and broaden access to rigorous courses
- California Subject-Matter Projects — strive to improve teaching of all subjects at all grade levels and provide ongoing support for teachers in their subject areas
- Impact II — identifies and connects innovative teachers who exemplify professionalism and creativity within a school district, documents and disseminates school-change projects, and distributes a line of publications and videos
- Vermont's Portfolio Networks — share the work of accomplished teachers to help colleagues learn how to use portfolio assessments in math and writing.

Professional Development Schools

Borrowing the theory of teaching hospitals, Professional Development Schools (PDS's) provide an intense internship for beginning teachers and create K-12/higher education partnerships. Since the late 1980s, more than 200 PDS's have been created through collaborative efforts.

- Michigan has a network of professional development schools that work closely with K-12 schools.
- Michigan and Minnesota have funded pilot projects to incorporate PDS-based internships into the initial preparation and licensing of teachers.
- South Carolina established the Center for the Advancement of Teaching and School Leadership to link teacher-preparation programs with K-12 schools.

Mentor Teacher Programs

Beginning teachers team up with a skilled, veteran teacher who can offer ongoing advice and support during the first years' teaching challenges.

- Connecticut's mentoring and performance assessment program provides mentors for all beginning teachers.
- Toledo, Ohio's, highly successful mentoring program has been adopted in Cincinnati and Columbus, Ohio; Rochester, New York; and Seattle, Washington.

Teacher Academies

Individuals and teams of teachers use the academies for short or extended periods of time to focus on professional growth or specific school-improvement goals. Typically, the academies draw on the expertise of local teachers, principals and university faculty.

Examples include: Gheens Academy in Louisville, Kentucky; Mayerson Academy in Cincinnati; and the North Carolina Teacher Academy.

State Professional-Development Activity

Examples of state teacher professional-development plans include:

- **Kentucky.** As part of the 1990 Kentucky Education Reform Act, school-based decisionmaking councils have control over 65% of state aid for professional development, which is funded at $23 per student. This structure allows the people closest to the students to make decisions about their school's professional-development activities. A variety of informal networks and other activities offers opportunities for sustained, high-quality

professional growth for teachers as they change and strengthen their practices to improve student performance.

- **Michigan.** Professional development is a required component of comprehensive school-improvement plans. The state provides funds for long-term, sustained professional-development efforts in the following areas: improvement of teaching and students, learning of the academic core curriculum, collaborative decisionmaking, site-based management, the process of school improvement, instructional leadership, and the use of data and assessments to improve teaching and learning. Districts and intermediate school districts are the primary providers for professional development.

- **Missouri.** The 1993 Outstanding Schools Act mandated that each district direct 1% of its state aid funds to its Professional Development Committee, which assesses the needs and makes recommendations for professional development. The state department of education expanded its professional-development budget to monitor how districts spend money, provide technical assistance and sponsor state-supported professional-development activities. The department also is establishing competitive grant programs, regional centers and partnerships with higher education institutions.

- **Vermont.** Each Vermont teacher creates an individual professional-development plan to best meet his or her needs, as well as the school's. A "professional-development consortium" brings together providers of professional development to coordinate efforts better and reduce competition. The consortium is working with the Vermont Standards Board for Professional Educators to develop professional-development standards.

Actions for Policymakers

State leaders wanting to ensure that all teachers have high-quality professional-development opportunities can do so through actions such as the following:

- Review state and local policies that shape professional development and determine what changes are needed to support higher-quality learning opportunities for teachers

- Conduct an expenditure audit to identify what is spent on teacher professional development and how resources could be invested more efficiently

- Provide challenge grants to schools for teachers to participate in school-improvement activities that advance their skills

- Expand professional-development credits to include participation in broader activities that develop teachers' knowledge and skills (e.g., serving on curriculum and standards committees, developing new assessments, conducting research, National Board Certification, etc.)

- Provide waivers so schools can schedule time for high-quality teacher professional development during and outside of the regular day (e.g., time for working with colleagues, mentoring, planning, accessing information on best practices, etc.)

- Subsidize effective professional-development programs such as mentor teachers, PDS's, teacher academies, teacher networks, etc.

- Encourage districts to provide lump-sum funding to schools for professional-development opportunities based on school- and student-improvement plans

- Track and disseminate information to schools, teachers and districts about professional-development options and their effectiveness.

Comments to Policymakers

State and local education reforms are more likely to succeed if all teachers have access to high-quality professional development. Linda Darling-Hammond of Columbia Teachers College observes that the "policy landscape needs an infrastructure or 'web' of professional-development opportunities that provide multiple and ongoing occasions for critical reflection and involve teachers with challenging content." In designing this infrastructure, state leaders should be concerned with how policies influence the quality of teacher professional development *and* how policies encourage efficient and effective use of resources.

Initiative #3

TEACHER CERTIFICATION AND LICENSING

Qualified teachers are critical to a student's academic success. Unfortunately, some teachers are assigned classes that they are not well-prepared to teach, and some teachers are just not well-prepared at all.

States try to ensure teacher quality through certification or licensure laws. Some certification laws set guidelines for course credits, but the number of course requirements varies greatly across the states. In addition to preparation through courses, some states require a teacher to have an undergraduate major in his or her assigned teaching field. Research shows, however, that:

- More than 12% of newly hired teachers enter without any training at all, and another 15% enter without having fully met state standards. This leaves only 73% of teachers with full licensure, according to the U.S. Department of Education.

- Fifty-six percent of high school students taking physical science are taught by out-of-field teachers, as are 27% of those taking mathematics and 21% of students taking English.[27] The proportions are much higher in high-poverty schools and in lower-track classes.

- In schools with the highest minority enrollments, students have less than a 50% chance of getting a science or math teacher who holds a license and a degree in the field he or she is teaching.[28]

- In 1990-91, U.S. Department of Education figures showed the percentage of public school teachers with a state license and a major in their main teaching field was as follows: English/language arts, 60%; mathematics, 53%; science, 63%; social studies, 71%.

It is reasonable to assume that if teachers take more courses or majors in their chosen field, they will know more about the subjects. Of course, this presumes the courses taken by prospective teachers are demanding, relevant and advance their knowledge and skills.

Requiring courses or subject majors does not guarantee depth of knowledge or good teaching, but it is unlikely that teachers do not benefit from exposure to more subject-matter content. It is common sense that teachers cannot teach what they do not know.

While the research is limited, a positive relationship has been found between the amount of coursework preparation by science and mathematics teachers and student learning in those fields.[29] Another analysis found that each additional mathematics course above the average number taken by math teachers translates into 2% to 4% higher student achievement.[30]

While course and/or subject-matter requirements have been the traditional approach to certify that teachers are qualified, the unfolding "performance-based" agenda requires teachers to *demonstrate* they have mastered the necessary content and teaching skills. This policy position mirrors the standards-based reforms that define what students should know and be able to do. Most likely, states initially will combine the more traditional certification process with the emerging teacher-standards efforts. Regardless of the approach, the underlying goal is to certify, hire and assign well-prepared teachers to lead America's classrooms and students into the next century.

Characteristics of High-Quality Initiatives

While information is not readily available about effective teacher certification and licensure programs, a new report by the National Commission on Teaching and America's Future recommends:

- Certification should be based on standards of what teachers should know and be able to do, in concert with the standards being developed for students.

- Certification should be performance-based, requiring teachers to demonstrate their knowledge of subject matter and effective teaching practices, versus merely completing a list of courses.

- Teaching candidates should pass tests that measure knowledge of subject matter and teaching skills *before* they receive initial licensure and are hired.

- Beginning teachers should pass a performance assessment of teaching skills during their first year or two of supervised practice as a basis for continuing licensure.

- States should use common assessments with agreed-upon cut-off scores. (This will allow reciprocity of teachers across state lines and expand the pool of available teachers.)

- Teaching candidates who go through "alternative-route" programs should pass the same assessments as teaching candidates prepared through university programs.

Examples of High-Quality Initiatives

State Teacher Professional Standards Boards

Twelve states (California, Georgia, Hawaii, Indiana, Iowa, Kentucky, Minnesota, Nevada, North Dakota, Oregon, West Virginia and Wyoming) have created "autonomous" teacher professional standards boards that have authority to make decisions about their state's teacher policies. Another 34 states have established advisory professional standards boards that present recommendations. The standards boards serve a number of purposes:

- Establishing standards and requirements for obtaining and maintaining teaching licenses or certification

- Issuing, renewing, suspending and revoking teaching licenses

- Assuring due process for revoking teachers' licenses

- Setting standards for teacher licensing examinations

- Creating policies or making recommendations to improve teacher education, induction and professional development

- Developing action plans to attract and retain qualified teachers to the profession.

Professional standards boards are composed of K-12 teachers, higher education representatives, superintendents, principals, state board members, higher education board members and community/business representatives. Some boards have a majority of teacher members.

While professional standards boards have not been formally evaluated, they can provide a number of benefits: creating an established entity focused on essential teacher issues; developing a more coherent set of standards and policies related to teacher preparation, certification and professional development; and giving teachers more direct involvement in policies that affect their profession.

National Board for Professional Teaching Standards

In 1987, the National Board for Professional Teaching Standards (NBPTS) was established to recognize exemplary teachers. The board has developed high and rigorous standards for what accomplished teachers should know and be able to do, and a national voluntary system to assess and certify teachers who meet these standards. Board certification complements, but does not replace, state licensing, which typically sets entry-level standards.

At least 16 states have taken actions to support teachers who pursue national board certification, including:

- Providing salary increases or one-year bonuses

- Accepting board certification for licensing renewal requirements and/or awarding the highest rank in the state licensure system

- Paying for, supplementing or reimbursing the teacher's fee for the assessment and certification process — most states designate number of teachers to pay for annually

- Awarding special status, such as "master teacher," which carries greater responsibility and salary bonuses

- Accepting board certification or participation in the process as professional-development credits

- Granting a license to board-certified teachers from out of state

- Providing release time to teachers to prepare for the intensive assessment process

- Modifying the state's teacher licensing categories to be compatible with national board certification categories.

No evaluations exist of how the NBPTS efforts affect student performance. This initiative, like others aimed at improving teaching, will take time to affect students more directly and will require large-scale and full adoption. But according to teachers, board certification serves as a highly effective professional-development opportunity, as they are required to examine their strengths and weakness, philosophy about teaching and ways to increase their impact on student performance. The national board recently contracted with the Educational Testing Service to evaluate the project's effectiveness and impact on teaching and learning.

Standards for Teachers

Meaningful standards are emerging for teacher preparation, licensing, certification and ongoing professional development. A coordinated effort to develop teaching standards has been led by three professional bodies: NBPTS, Interstate New Teacher Assessment and Support Consortium, and National Council for Accreditation of Teacher Education.

Actions for Policymakers

According to a recent report by the National Commission on Teaching and America's Future, state leaders can help improve teacher quality by:

- Developing and enforcing rigorous standards for teacher preparation, initial licensing and continuing development
- Creating a professional continuum for teacher development that begins with recruiting potential teachers into preparation programs and progresses through to advanced certification
- Establishing professional standards boards in every state
- Licensing teachers based on demonstrated performance, including tests of subject-matter knowledge, teaching knowledge and teaching skills
- Using national board standards as the benchmark for accomplished teaching.

Comments to Policymakers

State policymakers can set more rigorous certification requirements, but they also must discourage school districts from unraveling these efforts by assigning teachers to classes for which they are not certified or well-prepared. Though not by choice, this practice is most prevalent in low-income and urban districts that often end up with less-qualified teachers. Additionally, policymakers may want to explore the recent efforts that focus on tough performance standards for teacher preparation and certification.

Initiative #4

INTEGRATING EDUCATION WITH HEALTH AND SOCIAL SERVICES

Teachers who work with disadvantaged students argue that if children come to school hungry, unhealthy, frightened or abused, their learning is dramatically and negatively effected. These obstacles cannot be an excuse for failure in school, but must be recognized and addressed. The agencies in charge of meeting students' nonacademic needs, however, typically are fragmented, crisis-oriented and scattered throughout the community, making it difficult to serve students successfully.

As more attention is focused on the increasingly difficult lives of students and their families, the defects in the current service system have become glaringly apparent. In response, several states and communities have launched efforts to coordinate services among education and health and social services. These

Teachers who work with disadvantaged students argue that if children come to school hungry, unhealthy, frightened or abused, their learning is dramatically and negatively effected.

initiatives are intended to meet multiple needs of youth and families, thereby allowing schools to concentrate on preparing students for further education and the work world.

Interagency collaboration programs can deliver prevention, education and treatment services that are integrated instead of fragmented, ongoing instead of sporadic, and focused on multiple rather than single problems. And, budgets can be combined to make the most of existing dollars (although current budgeting systems often make this difficult). When possible, collaborative programs house all the services under one roof or find another way to provide services conveniently. In short, they are full-service programs that offer:

- Child care, early-childhood and after-school programs
- Parent-education classes and support
- Health services, such as immunization and health screenings
- Adult literacy and basic education programs
- Youth job programs and adult-employment services and training
- Drug treatment for youths and adults
- Mental-health services.

While large-scale, integrated-service programs are fairly new and evaluations are just emerging, they do hold promise. Demonstration projects suggest integrated-service programs can lead to increased parent involvement in schools; better health outcomes for students and families; the establishment of strong relationships with community and governmental agencies; improved access to services, particularly for underserved and hard-to-reach populations; lowered suspension and expulsion rates; and better retention and graduation rates.[31]

Characteristics of High-Quality Initiatives

Although a research-validated list does not exist yet, early efforts by practitioners and researchers suggest that effective collaborative initiatives share the following characteristics:

- School-linked, but not necessarily school-based
- Rooted in the community, but closely connected with state government and supported by people who use the services, those who provide them and those who help pay for them
- Begin as pilot programs or, if large-scale, provide an effective communication network to share what works and what does not
- Develop comprehensive community profiles and databases that indicate how well children and families are faring, how well services are meeting family needs and where service gaps exist
- Use resources efficiently by leveraging existing resources and targeting new resources to high priority services
- Provide inservice training and leadership development to staff
- Involve a broad range of groups and individuals in decisions about services and programs
- Driven by long-term plans and objectives, but meet short-term needs.

Examples of High-Quality Initiatives

States have initiated an array of interagency efforts, including multi-agency collaboratives; multi-service centers; state-level cabinets or agency divisions for children, youth and families; and state and local councils or commissions. While most of the action has been at the community and district level, here are a few state examples:

Kentucky

Kentucky's Youth Service and Family Resource Centers were established as part of the 1990 Kentucky Education Reform Act. In low-income school districts (where 20% of the student population receives free school meals), the school system operates family-resource centers in or near public elementary schools, youth centers in or near public middle or high schools, or combined centers that can serve children in elementary through high school and their families. Funding in 1995-96 was approximately $37 million, which supported 545 centers serving 861 schools.

The program's primary goal is to remove nonacademic barriers to children's learning. Through resources and support, the centers strengthen the functioning and development of families.[32]

Maryland

In 1985, Maryland created Family Support Centers in response to high teen-pregnancy rates. The program is a statewide public-private partnership of multiple state departments, private foundations, businesses and individuals. The program operates in 16 of 24 state jurisdictions and received just over $8 million in 1995-96.

The program's goal is to provide comprehensive, community-based, preventive services on a drop-in basis to families in neighborhoods with high rates of teenage pregnancy, poverty, low birth-weight babies, high-school dropouts, child abuse and neglect, and unemployment.[33]

Minnesota

State leaders in Minnesota took an unusual step in 1995 and abolished the Department of Education, replacing it with the Department of Children, Families and Learning. The objective is for state-funded and locally implemented programs to be better coordinated, to emphasize prevention and to be more effective through greater community involvement. The core of the new agency was created by transferring 16 programs from five other executive branch agencies (i.e., human services, corrections, public safety, etc.). Programs include child-care subsidy and family-service grants, Head Start, child-abuse programs, drug and violence prevention, teen pregnancy and various children's initiatives.

New Jersey

Started in 1988, the New Jersey School-Based Youth Services Program (SBYSP) is a statewide effort to place comprehensive services in or near secondary schools. The program's goal is to provide adolescents, especially those at high risk, with opportunities to complete their education, obtain skills that lead to employment or additional education, and lead mentally and physically healthy and drug-free lives. SBYSP operates in more than 30 school districts, with at least one site per county. Many program directors and educators believe the program is partially responsible for lowering dropout, suspension and teen-pregnancy rates, and for fewer incidences of violence.

Actions for Policymakers

To promote a more integrated social services system, state leaders may want to consider the following actions:

- Initiate an ongoing interagency coalition to develop a vision and plan for systemwide collaboration
- Establish a high-level position (e.g., governor's cabinet) to represent the interagency coalition
- Ask for a complete inventory and analysis of programs, services, funding sources and service recipients in order to identify the scope of existing services, set priorities and eliminate ineffective efforts
- Help local initiatives succeed by disseminating information, providing technical assistance and creating networks for service providers.

Comments to Policymakers

Policymakers and agency leaders should take a hard look at bureaucratic rules and regulations, resources, turf issues and attitudes that contribute to ineffective and inefficient services to children, youth and families. Successful collaboration between education and social services requires commitment for the long haul, for it

is not the path of least resistance. But the demands on the school system, coupled with federal social policy changes, call for dramatic changes to the current way of serving youth and families.

Initiative #5

CHILDREN AND FAMILY-FOCUSED PROGRAMS

Family-focused initiatives are part of an expanding movement to build social-service systems that are integrated, comprehensive and preventive, and therefore more efficient at delivering multiple services to children and families. These family-support efforts are designed to achieve multiple objectives, including:

- Promoting children's school readiness and achievement (intellectual, language and social development)
- Improving parenting skills and parents' role as their children's primary teacher
- Preventing the onset of "at-risk" factors associated with poverty
- Improving key indicators of children's health
- Strengthening families and meeting their multiple needs
- Increasing low-income parents' ability to gain economic self-sufficiency while nurturing their children's development.

"Because learning occurs in the home, school and community, forming partnerships with families boosts children's opportunity to excel in school. No longer is it sufficient to focus on classroom improvement; this has to be supplemented with information, support and communication with parents or other adult family members," according to the Harvard Family Research Project. Strong parenting skills and a healthy home environment can improve children's language, reading and math skills, speech development and their ability to adapt to school. Parents also have a tremendous influence on a child's value of education, studying and achievement.

Moreover, a wealth of research from the community provides further evidence that "helping parents nurture healthy brains in their children will lead to a payoff in school by immersing children in environments that are emotionally and intellectually rich and stimulating."[34]

Although not well-documented through research or evaluation, the directors of family-support programs cite several benefits to schools when child and family-support services are provided:

- Increasing parent involvement and support for schools
- Saving money for schools and districts through sharing program materials and expertise with schools, offering free staff development to school personnel, developing a group of parent volunteers for the schools, and reducing the number of children who need special-education services
- Serving as pilot programs for innovative, effective ways to meet children and families' needs
- Providing more responsive service in crisis situations.

Characteristics of High-Quality Initiatives

Even though children and family-focused efforts are just beginning to expand, practitioners and research to date suggest that effective programs:

- Serve children and parents simultaneously through promoting a child's academic, social and physical development; enhancing parenting skills; and providing adult education and employment services

A wealth of research from the community provides further evidence that "helping parents nurture healthy brains in their children will lead to a payoff in school by immersing children in environments that are emotionally and intellectually rich and stimulating."

- Connect with "second-phase" programs that continue comprehensive services throughout the school years, as well as with elementary school teachers
- Hire well-trained and caring staff and provide ongoing professional development and adequate salaries
- Conduct regular program evaluation and make adjustments for greater effectiveness
- Involve a broad range of people, including the clients, in decisions about programs and services
- Provide adequate and stable funding from a variety of sources
- Provide facilities that accommodate the program's needs and are accessible to the clients.

Examples of High-Quality Initiatives

Missouri's Parents as Teachers

Started as a pilot project in 1981, Parents as Teachers (PAT) became mandatory for all Missouri school districts in 1984. In 1994-95, all 535 districts and 25 child-care centers had PAT programs, serving approximately 140,000 families. Funding for FY 1995-96 was approximately $21 million, coming from both state and local sources. The program was designed to help parents give their children a solid foundation for school success and to form closer relationships between home and school. Services include parenting education through home visits, parent group sessions and child-developmental screening. PAT programs have spread to 43 states and four foreign countries. Evaluations have found:

- Children's intellectual, language and social development increased.
- Children of parents participating in the program have scored higher on various early-childhood and 1st-grade standardized tests than peers not involved in the program.

Parents demonstrate significantly more knowledge about child-rearing and child development and are more involved in their children's school experience.

Actions for Policymakers

States policymakers can support local children and family initiatives by exploring actions such as the following:

- Establishing an information and resource center in the state department of education for supporting children and families
- Providing technical assistance to communities as they establish child-family support programs
- Establishing a grant program to supplement local and other revenue sources
- Connecting program providers with one another.

Comments to Policymakers

State and local leaders should offer ongoing services to provide continuity and to maintain the academic, physical and social gains made through early-childhood and family-support programs. For instance, state and local leaders can establish or encourage family and youth resource centers in low-income neighborhoods. Missouri serves as an example of continued support through its family-support program, Parents as Teachers, which is supplemented by Practical Parenting Partnerships, a program to maintain family support and involvement in the elementary grades.

Initiative #6

KINDERGARTEN: FULL DAY VERSUS HALF DAY

State legislatures, school boards, educators and teachers regularly debate the relative merits of full-day versus half-day kindergarten in terms of academic and social benefits to young children. While the issue has not been resolved, most states have developed policies on kindergarten attendance. According to a 1995 report:

- Thirty-seven states require school districts to offer kindergarten and specify either half day or full day; and three states leave the schedule decision to local districts.

- Twenty-four states require school districts to offer *only* half-day kindergarten, of which eight require student attendance.

- Eight states require districts to offer full-day kindergarten, of which four require students to attend the program.

- Four states require districts to offer *both* half day and full day, but only two require students to attend one of the programs.

Several issues arise concerning full-day kindergarten, including: whether the academic and social gains outweigh the additional cost of full-day programs, whether young children need and can withstand a whole day of school, and whether the child/parent bond suffers by extended hours of separation.

Many teachers believe full-day programs are necessary because of the variety of activities in kindergarten. Full-day programs offer more time for learning activities, diagnosing children's needs and interests, and participating in creative projects. Proponents also argue that all-day programs can offer more enrichment programs and playtime. In short, full-day kindergarten offers more time for learning and activities.

Proponents of half-day programs voice concerns over the cost, longer school hours and time away from parents. In response, advocates for full-day kindergarten claim money can be found through partial state support, eliminating half-day bus routes and attracting children who attend private all-day programs. They also contend that parents get more involved in full-day programs and welcome all-day, structured care for their children while they are at work. Lastly, research shows that signs of fatigue do not appear or, if they do, disappear within a few weeks once the child has adapted to the all-day schedule.

A third, more neutral group believes that what matters most is the quality and appropriateness of the program, not whether it is full day or half day. But all three camps emphasize the importance of kindergarten in providing a bridge between preschool and 1st grade, laying a foundation for success in elementary school and developing a child's social skills.

The question at hand is, "Does full-day kindergarten offer more student achievement benefits than half-day programs?" A Council of Chief State School Officers' review of 37 studies comparing the two kindergarten schedules yielded the following tentative conclusions:

- Twenty studies found results that favored full-day programs in academic achievement.

- Five studies found at least one positive academic effect favoring half-day kindergarten over full day.

- Twelve studies indicated mixed results on various measures of academic effects.

- Seven studies measured the effects of full-day kindergarten on educationally disadvantaged children, and all reported significant differences in favor of full-day programs.

- Most studies found full-day kindergarten provides significantly greater benefits for children from low-income or educationally disadvantaged backgrounds.

- A substantial majority of studies that reported academic and social differences found in favor of full-day kindergarten; these differences were reportedly due to the uninterrupted time that full-day teachers could devote to teaching skills.

- Full-day programs tended to have a more academic orientation.

Characteristics of High-Quality Initiatives

As better information on child development and effective classroom practices emerges, educators and experts are revising the criteria for high-quality kindergarten programs. While full consensus does not exist, suggestions for quality programs usually include:

- An age-appropriate curriculum that balances academic and social skills

- A variety of activities that include time to learn, play, create and explore
- Parental involvement and regular communication between teachers and parents.

Examples of High-Quality Initiatives

Kindergarten Integrated Thematic Experiences (KITE)

KITE is designed to increase achievement by promoting basic reading and math readiness and language skills while helping children develop a positive self-image. The program, for regular and academically disadvantaged students, operates in all 50 states and has been particularly successful with low-income, migrant, bilingual and special-education students. KITE combines child-initiated and teacher-directed activities to help children develop cognitive, language, physical and social skills. Evaluations have shown that regular and at-risk students demonstrate significantly greater academic growth and more positive attitudes toward learning.

Actions for Policymakers

Policymakers can strengthen the education of young children by considering the following steps:

- Work with educators and parents to reexamine how kindergarten figures into the larger picture of preparing young children for success in school, and how kindergarten meets the needs of today's families
- Identify the scope of pre-kindergarten, kindergarten and primary-grade programs provided in the state and determine which are more effective and efficient (in achievement and cost) in laying a foundation for high student performance
- Analyze the costs of providing full-day versus half-day kindergarten, and weigh those costs against the academic and social benefits of the programs
- Provide fiscal incentives for districts to offer full-day kindergarten programs, especially in low-income and low-achieving schools
- Identify policies that balance state responsibility for providing educational opportunities for young children and local control over how best to meet children's needs.

Comments to Policymakers

Ultimately, leaders in each state and community must decide whether kindergarten programs should be offered, whether half day or full day should be offered and whether districts should be required to offer either or both types of programs. These decisions, however, should be based not just on tradition or fiscal concerns, but on what is best for children.

Initiative #7

RESTRUCTURED SCHOOLS

The term restructuring has become so ambiguous that it can be — and is — used to describe almost any reform effort. Rearranging various parts and practices of the school is not restructuring, nor is introducing narrowly focused changes or just doing the same things better. A restructured school is one that fundamentally redesigns every aspect of and departs from the conventional ways of teaching, learning and decisionmaking.

Restructured schools date back to the 1970s, but gained momentum a decade later when educators became disillusioned with 1980s' reforms, such as increasing graduation requirements and teacher salaries. Supporters of restructured schools believe successful change must happen at a more basic level and must challenge the underlying assumptions and practices of education.

First and foremost, increasing student performance requires a complete focus on students, not on adults or procedures. And further, teachers and principals must

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be freed from prescribed practices, curricula, schedules, tests and anything that serves as a barrier to student learning, as long as students' safety is not jeopardized.

Preliminary evidence of restructured schools' impact on student performance indicates that when these schools fully adopt certain practices, they can produce achievement gains. A five-year study conducted by the Center on Organization and Restructuring of Schools (CORS) and released in 1995 reviewed data from more than 1,500 schools nationwide and field studies of 44 schools in 16 states. CORS concluded that while no single structural reform guarantees improved student achievement, elements of restructuring contribute to success, including:

- A direct and clear focus on improving student achievement
- Teaching practices that challenge students to think, develop in-depth understanding and apply academic learning to important, real-world problems
- Shared governance that gives teachers a role in setting school policy and influencing practice
- Practices such as team teaching that encourage collaboration among teachers
- Professional development that connects teaching and leadership skills to the overall school mission and restructuring efforts
- Autonomy that allows schools to develop and implement changes that are tied to high standards
- Small school size, which contributes to more interaction, communication and trust between students, school faculty and parents
- Parent and community involvement in and support for school programs and restructuring efforts.

Examples of High-Quality Initiatives

Ventures in Education

Initially a small-scale program under a Macy Foundation grant, Ventures in Education has spread to 65 schools across the country. Primarily serving low-income and minority students, the program's objective is to bring academic success to more students through the following principles:

- A central theme of helping students achieve and a belief that all students can excel in challenging courses
- A demanding, academically focused curriculum and set of courses
- Extensive academic support so that, while students are encouraged to risk attempting more challenging material, assistance is readily available to ensure their success
- School-site decisionmaking authority to develop and tailor the program to meet students' particular needs
- Direct adult involvement in the scholastic and personal lives of students
- Strong emphasis on professional development and participatory decisionmaking
- Wide variety of instructional techniques and enrichment activities
- Nontraditional class and school-day scheduling.

Students who attend Ventures in Education schools typically fall into the low-achieving categories on all measures. A 1991 study, however, tracked Ventures' graduates and found:

- Nearly 90% of the students attended college, compared to a national average of 62%.
- Ninety-three percent of the black students enrolled in college, compared to 46% nationally.
- Eighty-eight percent of the Hispanic students enrolled in college, compared to 57% nationally.
- Ninety percent of the female students enrolled in college, compared to 68% nationally.
- A number of the program's graduates are attending America's top colleges and universities, including seven of the top 10 schools.

Other Examples

Other examples of restructured schools include those belonging to national reform networks, such as Accelerated Schools, Coalition of Essential Schools, Foxfire, the Paideia Program, School Development Program and Success for All. These networks have been around for several years, and their programs have been adopted by hundreds of schools.

Evaluations of these network schools vary, in both the extent of the studies and in the conclusions about their impact on student performance. Overall, research is limited and somewhat inconsistent as to whether network schools increase student achievement, but many individual schools have demonstrated significant gains. In addition, studies have found that the most successful schools fully incorporate *all* components of the particular program, such as the underlying principles, curriculum, instruction methods, etc.

The most recent restructured schools to appear on the scene are those associated with the New American Schools effort. These programs include: ATLAS Communities, Audrey Cohen College, Co-NECT, Expeditionary Learning Outward Bound, Modern Red Schoolhouse, National Alliance for Restructuring Education, and Roots and Wings. Initial evaluations of these networks are encouraging, but it is too early to draw conclusions about their effect on student learning.

While this publication lists schools that are part of national networks, numerous individual schools have engaged in restructuring over the years.

Actions for Policymakers

State leaders interested in reform can encourage the development and success of restructured schools by:

- Providing multi-year grants to schools that present comprehensive plans to restructure. These dollars can support the extensive planning and professional development needed to successfully restructure a school.
- Offering waivers so restructured schools can use resources and redesign schedules to more closely match their teaching and learning needs.
- Incorporating an "innovative-schools" provision in comprehensive state reform plans that provides funding, support and recognition to restructured schools.
- Providing information about national restructuring networks and other restructured school options, as well as effective restructuring practices and strategies, such as, consumer's and how-to guides, exhibitions for networks representatives and organized visits to demonstration sites.
- Encouraging districts to offer more options for teaching and learning, including schools that restructure with a particular focus.
- Developing "Plan B" of the state accountability system that allows restructured and other innovative schools to be held responsible for continuous student performance gains, rather than for meeting general "input" accreditation standards.
- Using a variety of assessments that measure student- and school-performance gains.
- Working with schools and districts to use their federal Title I dollars in ways that support restructured schools and focus on improving student achievement.

Comments to Policymakers

Policymakers can support the development and success of restructured schools through an education system that focuses on student results, encourages districts to offer schools with different teaching and learning approaches, and holds school systems accountable for performance gains.

Restructured and other innovative schools should be recognized, not as "alternative schools," but as an integral part of the education system. This transition can take place if policymakers focus the system on

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student performance gains and provide alternative assessments and accountability systems to demonstrate better performance. A balance must be struck between loosening up the education system and ensuring that high standards are achieved, and that districts and schools are held accountable for students' success. State leaders should take the time to visit with and learn from the schools that are taking risks and working for all types of students.

Initiative #8

CONTENT AND PERFORMANCE STANDARDS FOR STUDENTS

State leaders' efforts to set high student standards has created a "reaction continuum" that progresses from strong enthusiasm to guarded optimism to apathy and finally to skepticism. Student standard reforms include, but go beyond, expecting every student to take challenging academic courses. Standards can be broken down into two basic categories:

- Content standards are statements that clearly define what students should know and be able to do in various subject areas and for different grade levels.
- Performance standards provide concrete examples and definitions of how well students must learn the material in the content standards.

Previous reform efforts indicate that setting high academic standards is not enough. Challenging subject matter must be combined with assessments that accurately measure if students have met the standards, and with a straightforward way to let everyone know how well the schools and districts are doing. In education lingo, this three-pronged approach includes standards, assessments and accountability.

Nearly every state is developing core-academic standards for its students. Numerous school districts are either ahead of or are working with state leaders to craft student standards. Some states and districts have adopted standards created by subject-matter groups, such as the National Council of Teachers of Mathematics. Most states have student assessments, but it is unclear how well the tests and standards match up. Fewer states have set tough measures to hold students accountable for achieving the standards.

The push for student-academic standards responds to concerns that schools have no clear standards, and expectations vary among schools and classrooms. The American Federation of Teachers (AFT) notes: "The idea is to set clear standards for what students should learn and to use those standards to drive other changes in the system. Through standards, we can focus our energies, ideas and resources on helping students achieve. Without standards, we have no clear focus and no way to determine which reform ideas and programs actually work."

Skeptics of the standards movement wonder if it is reasonable to expect each state (and possibly every district) to develop high academic standards, appropriate assessments and meaningful accountability systems, and to put all of this in place for *all* students. Some question whether an entire education system can be "saved by standards." Still others voice concern that state-directed standards will prevent local communities from deciding what is best for their schools or discourage different types of schools, such as charters, magnet, national reform network and other restructured schools.

In response, standards proponents believe changes are achievable, but admit the whole process will be difficult. Further, they acknowledge that more rigorous standards, assessments and accountability must be coupled with better policies for curriculum, teacher education, professional development, funding and local decisionmaking. Lastly, most state leaders are attempting to set broad guidelines for standards and allow districts to decide how to achieve them. At the same time, they are pushing districts to offer a wide range of public schools.

Early evidence (and previous research) indicates that setting clear and rigorous standards — with assessments, teaching materials and teacher preparation to support them — can lead to improved student performance. Even in the states that are furthest along, however, it is still too soon to draw conclusions about the effects of standards-based reform on student performance. Moreover, each state's standards and

assessments look somewhat different, and, according to the AFT, only 13 states have standards strong enough to carry the weight of the reforms built upon them, according to AFT criteria (see below for AFT guidelines). The AFT report shows a solid commitment to standards by nearly every state, but notes they have not yet developed meaningful assessments and accountability systems.

Characteristics of High-Quality Initiatives

Standards are based on several principles, including:

- Challenging standards apply to all students.
- Standards are clear, concrete and widely communicated.
- Success requires adequate time for and effort by students to achieve the standards.
- Various teaching methods are used to accommodate students' different learning styles.
- Curriculum, assessments and instruction are tied to the content standards, and other policies, such as professional development and teacher certification, reinforce the standards.
- Different types of tests, such as multiple choice, performance tests and portfolios are used to assess different standards.
- Multiple levels of performance are used to indicate where students stand with respect to achieving a standard (e.g., making progress toward the standard, meets the standard, exceeds the standard).

AFT's criteria for judging state standards are:

- Does the state have standards or curriculum frameworks in the core academic areas?
- Are the standards clear and specific enough to form the basis for a core curriculum?
- Does the state have student assessments aligned with the standards?
- Are there stakes for students attached to the standards? Are students expected to meet these standards to graduate?
- Are these standards benchmarked to world-class levels?

Examples of High-Quality Initiatives

The following are just two examples of states with more complete standards-based plans that include a core curriculum, assessments and accountability measures tied to the standards.

Georgia

Georgia has a "Quality Core Curriculum" that covers core subjects as well as arts and foreign languages. The core curriculum is clear and specific. Among other assessments, the state has tests tied to the core-curriculum that all students must take in grade 3, 5, 8 and 11. Students must pass the 11th-grade test to graduate. In addition to the core curriculum documents, the state has developed preparation booklets for the 11th-grade exams, which include content descriptions and sample test items in each subject.[35]

Delaware

The goal of Delaware's education reform plan is to standardize performance measures, assessments, benchmarks and expectations, while decentralizing curriculum, instruction and teaching practices. Over the last four years, the state developed common statewide standards in four core-subject areas: mathematics, science, social studies and English. In 1993, the state created an Interim Assessment program and reported student results against performance standards statewide. By the 1997-98 school year, Delaware will have assessments in place that measure students' progress toward the statewide standards, as well as an accountability system that will report these results.

Examples of other state action on standards include:

Colorado

A number of school districts have implemented student standards and connected them to assessments, curriculum and instruction. These districts have seen increases in student achievement, decreases in the performance gap between white and minority children,

and dramatic increases in students scoring at or above the proficient level on local exams in writing, math and reading.

Kentucky

After implementing a performance-based education system, 78% of the state's schools showed gains in student achievement between 1992 and 1994. Scores rose by an average of 22% among 4th graders, 13% among 8th graders and 9% among 12th graders.

Maryland

Since implementing student standards, Maryland has seen increases each year in the number of schools that approach or meet the standards. In 1993, for example, 113 schools approached or met the 3rd-grade mathematics standards; in 1995, the number was nearly 300 schools. And, the percentage of schools performing at the "satisfactory" level on the Maryland School Performance Assessment has risen steadily.

Actions for Policymakers

Based on lessons learned from states, the following are suggestions policymakers may want to examine to accomplish successful standards-based reform in their states:

- Insist that standards are rigorous and apply to all students
- Connect other state policies to the standards (curriculum, assessment, professional development, teacher education, accountability and finance)
- Develop an accountability system that regularly provides reports to and involves the public
- Connect standards to other state and local education reforms
- Create bipartisan coalitions and leadership to support standards-driven reforms
- Involve the public in making decisions about standards and develop a comprehensive communications strategy to discuss the student standards
- Allow adequate time to develop rigorous standards and assessments
- Provide support for districts implementing standards
- Work with policymakers from other states to share the cost of developing standards and assessments, as well as progress reports and lessons learned.

Comments to Policymakers

In developing standards, state leaders must find the best way to meet the needs of everyone involved and to make sure all students are given an equal opportunity to achieve the standards. Regardless of the course a state takes, it will not be an easy endeavor and so persistence is essential. State leaders also must work with various groups to determine how standards can allow other effective reform initiatives to flourish.

CATEGORY "C" POLICIES AND PROGRAMS

Initiatives in Category "C" share *all* or *most* of the following characteristics: they are fairly new and popular, they are largely unevaluated and only anecdotal evidence exists that they contribute to increased student performance.

The following initiatives will be examined in this section:

1. Performance-Based Pay for Teachers
2. Public-School Choice
3. School-Based Management
4. School-to-Work Initiatives
5. Using Technology to Improve Teaching and Learning.

Initiative #1
PERFORMANCE-BASED PAY FOR TEACHERS

The current system for paying teachers comes under scrutiny frequently because, as a rule, the best teachers get the same salary as mediocre teachers. Teacher salaries are determined by years of teaching, additional courses taken and degrees earned. These elements are referred to as "salary schedule steps." While this system has its merits and is fairly straightforward, questions arise as to whether the criteria used to increase a teacher's salary translate into better teaching. In response, several states and reform experts have introduced more accurate ways of measuring teacher competency.

Merit Pay

Merit pay is an incentive-based pay system intended to reward good teaching above and beyond the base salary level. These programs have received mixed evaluations and are quite controversial. An Arizona study found that merit pay increased student achievement, lowered dropout rates and improved graduation rates. Furthermore, some teachers involved in such programs report they welcome the chance for their skills and expertise to be formally recognized and rewarded. Critics, however, claim there is no agreement on what constitutes good teaching, it is difficult to evaluate a teacher's "merit," the rewards are too small, and the plans create unhealthy competition among teachers and an even greater sense of isolation within schools.

Competency-Based Salaries

Professors at the University of Wisconsin-Madison are designing a new salary plan that would more directly measure teachers' knowledge and skills. The pay system would reward teacher development in three areas: (1) depth in areas of content, curriculum and instructional expertise; (2) "breadth" skills such as curriculum development, guidance counseling and parent outreach; and (3) management skills, particularly for schools involved in site-based management. The skills- or competency-based salary component could be added to the current salary schedule, replace either the education or experience component of the current salary schedule, or replace both components. So far, only a few districts have piloted efforts to incorporate a competency- or skill-based teacher salary plan, and no evaluations have been conducted.

Initiative #2
PUBLIC-SCHOOL CHOICE

Public-school choice is intended to give students and parents more options for selecting and attending schools. Although public-school choice has prompted some bitter discussions, it is now a fairly common occurrence in the education system. Choice programs include:

- **Limited intradistrict choice plans.** Students may choose schools within their district; participation by schools is voluntary.

- **Mandatory statewide interdistrict choice plans.** Students may move between districts, and all districts must participate.

- **Magnet schools.** Schools specializing in such subjects as foreign language, performing arts or science are set up to attract students from across the districts; typically used for desegregation purposes.

- **Postsecondary options.** High school students may attend college classes paid for with public school money.

- **Charter schools.** Allow teachers, parents and other concerned citizens or groups to create a public school through a contract, or charter, with the school district or another authorized entity.

Essentially, school choice is about changing district policies that assign students to schools based on where they live or to comply with desegregation plans. Instead, choice supporters want a more open system of selecting schools in order to match what a student needs to what a school offers in terms of curriculum focus, teaching practices, educational philosophy, school size, discipline, etc. Moreover, the opportunity to choose a school should be available to every child, not just wealthier students who can attend the better suburban or private schools, they say. As an added benefit, school-choice advocates argue that when parents actively choose a school, they become more involved in their child's education, which contributes to higher achievement. Skeptics claim that to make a real difference, students must choose among highly successful schools and not just "a different" school.

Evidence of whether public-school choice improves student performance varies depending on the program. Research on intra- and interdistrict choice shows mixed results and suggests that choice, by itself, does not lead to higher student achievement (although parent involvement and student satisfaction appear to increase).

Research results of magnet schools have been favorable, showing higher student test scores. As a cautionary note, magnet schools were created to attract the best and brightest inner-city minority students and suburban white students to satisfy desegregation orders. And while magnet schools are public, most have tough admissions standards or intimidating performance requirements. Despite these caveats, magnet schools are extremely popular and emulate practices of successful restructured schools; i.e., they are governed by school faculty, focus on students' academic and other needs, offer a challenging curriculum and involve parents in key decisions.

Initiated in 1991, charter schools are too new to gauge whether they improve student results. Early analysis, however, shows that charter schools:

- Serve diverse student groups (63% are minority)

- Attract some dropout, private-school and home-schooled students

- Tend to be small (nearly every school has fewer than 500 students).

Charter schools have sparked considerable interest, with more than half the states enacting legislation, and approximately 225 schools opening around the country in the last five years.

Seemingly, public-school choice efforts will find a permanent place within the education system, and at some point might not be distinguishable programs. Presently, however, choice schools represent only a small percentage of the student enrollment.

Initiative #3

SCHOOL-BASED MANAGEMENT

School-based management was envisioned as a way to improve schools from the bottom up. Throughout the country, site-based management teams have sprung up to provide principals, teachers, parents and community members greater involvement and partnership in school decisions.

The goal is to put the responsibility for making important decisions where teaching, learning and meaningful change happen — at the local school level.

Additionally, site-based management loosens central office control and allows the community to design a school to serve its particular students.

So far, school-based management has not lived up to people's expectations, however. While success stories exist, most studies have found that site-based management has had more impact on school structure than on student performance.

Some researchers suggest site-based management has been less than effective because school decision-making teams have lacked real control over personnel, the curriculum or budgets, and they do not receive adequate training to play a significant role in school change. Studies also indicate successful site-based management must give teachers significant authority over decisions, extensive professional development, and access to information on funding, student performance and community satisfaction.

Initiative #4

SCHOOL-TO-WORK INITIATIVES

The demands of the work world change daily. To succeed in the job market, students will need multiple and adaptable skills and ongoing education. Yet, the education system rarely gives students, whether bound for work or college, opportunities to apply what they learn in school to the world of work. This shortcoming in public education results in too many students left unprepared for the workplace and unaware of their career options.

School-to-work initiatives, or "connecting learning and work," address these problems by giving students opportunities to connect the classroom to applied work situations. As part of the programs, internships and apprenticeships allow students to experience the workplace firsthand and give them a decisive edge upon graduation. Students are expected to take challenging academic and career-oriented courses and to meet high standards in both areas.

While programs to connect learning and work build on more traditional vocational education programs, evaluations of these more expansive efforts on student performance are not yet available. We can look, however, to countries such as Germany that have integrated school and work for decades and attest to the benefits for both students and businesses. But for now, common sense and anecdotal testimonies from students and employers suggest initiatives connecting school and work are worth pursuing.

Initiative #5

USING TECHNOLOGY TO IMPROVE TEACHING AND LEARNING

Technology has infiltrated everyday lives, work and schools. Americans' vocabulary now includes words such as the Internet, Web sites, Windows and a host of other terms previously absent from common conversation. News reports regularly note the strong connection between America's technological progress and its continued economic competitiveness. In short, technology permeates American society.

As such, policymakers and educators are trying to capitalize on technology's advances to strengthen teaching and learning and ultimately prepare students for the workforce. Technology gives students the chance to work at their own pace, dramatically expand their access to information and learn through visual images. Computer-assisted instruction also allows teachers to spend more time with students in small groups or one-on-one.

To date, technology's ability to increase student learning has been mostly anecdotal. Research-based evidence is just emerging that suggests computers can positively influence student achievement in core subjects. A recent publication, *Report on the Effectiveness of Technology in Schools*, reviewed approximately 175 studies on technology and learning. The report (Sivin-Kachala and Bialo) concluded:

- Technology is an effective way to support instruction and can improve achievement in several subject areas, including language arts, reading and mathematics.
- The level of effectiveness of educational technology is influenced by the specific student population, the software design, the teacher's role and training, how

students are grouped and the level of student access to technology.

Apparently, technology has significant potential for improving student performance, but its impact depends on numerous factors. More focused research is needed to understand how and under what circumstances technology can improve student achievement.

CONCLUSION

Increasingly, policymakers and the public are asking for evidence to show that education reforms and programs actually improve student performance Far more time, however, is devoted to implementing reforms than to evaluating them. While anecdotal information and subjective opinions abound, many education initiatives lack solid evidence to show they consistently and positively improve student results.

For education policy to have a greater impact on student achievement, policymakers need a more rigorous, thoughtful process for making decisions. State leaders, for example, need to:

- Insist on well-documented evidence, where available, of results in student achievement before investing in or expanding education initiatives.
- Ask tough questions about suggested reforms and those already in place, including:
  - What are the intended goals of various education policies, and how do we know if they are achieved?
  - How do we gauge progress along the way? What do we do if we seem to be off track?
  - How much time do we allow a program to operate before deciding whether to continue, expand or abandon it?
  - How do we build in rigorous, periodic evaluations to measure the progress and impact of education initiatives on our students?
- As education investment advisors, consider the balance of options, judiciously mixing the better-researched approaches, such as emphasizing core-academic subjects (or another of the Category "A" initiatives) with "cutting-edge" initiatives that offer higher risk but potentially higher gains.
- Be sure the state education reform initiative includes measures to evaluate progress and success.

When dealing with such high stakes as a child's education, informed decisionmaking is an imperative. New policy directions should be pursued, for they hold great promise, but it is wise to proceed with all the available information and to balance newer, promising initiatives with the more tried and true strategies.

The bottom line for policymakers then is to:

- Study the available evidence.
- Examine efforts that hold promise for improving student achievement.
- Put together a diverse package of initiatives combining the best of the "old" with the most promising of the "new." Remember none of these strategies will work alone and, to be successful, any plan should contain:
  - A reliance on objective, solid information to develop education policies
  - A comprehensive, long-term plan that focuses on improving teaching and learning
  - Provisions to define success and measure progress
  - Rigorous evaluations of whether initiatives are achieving their intended goals
  - A commitment to "stay the course" with education reform plans.

Building these practices into the policymaking process increases the chance that education reforms will lead to improved student performance.

Please send other information or evidence linking reforms to improved student achievement to ECS, c/o Mary Fulton, 707 17th St., Suite 2700, Denver, CO 80202-3427.

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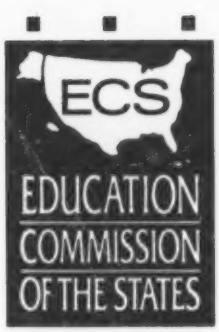

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